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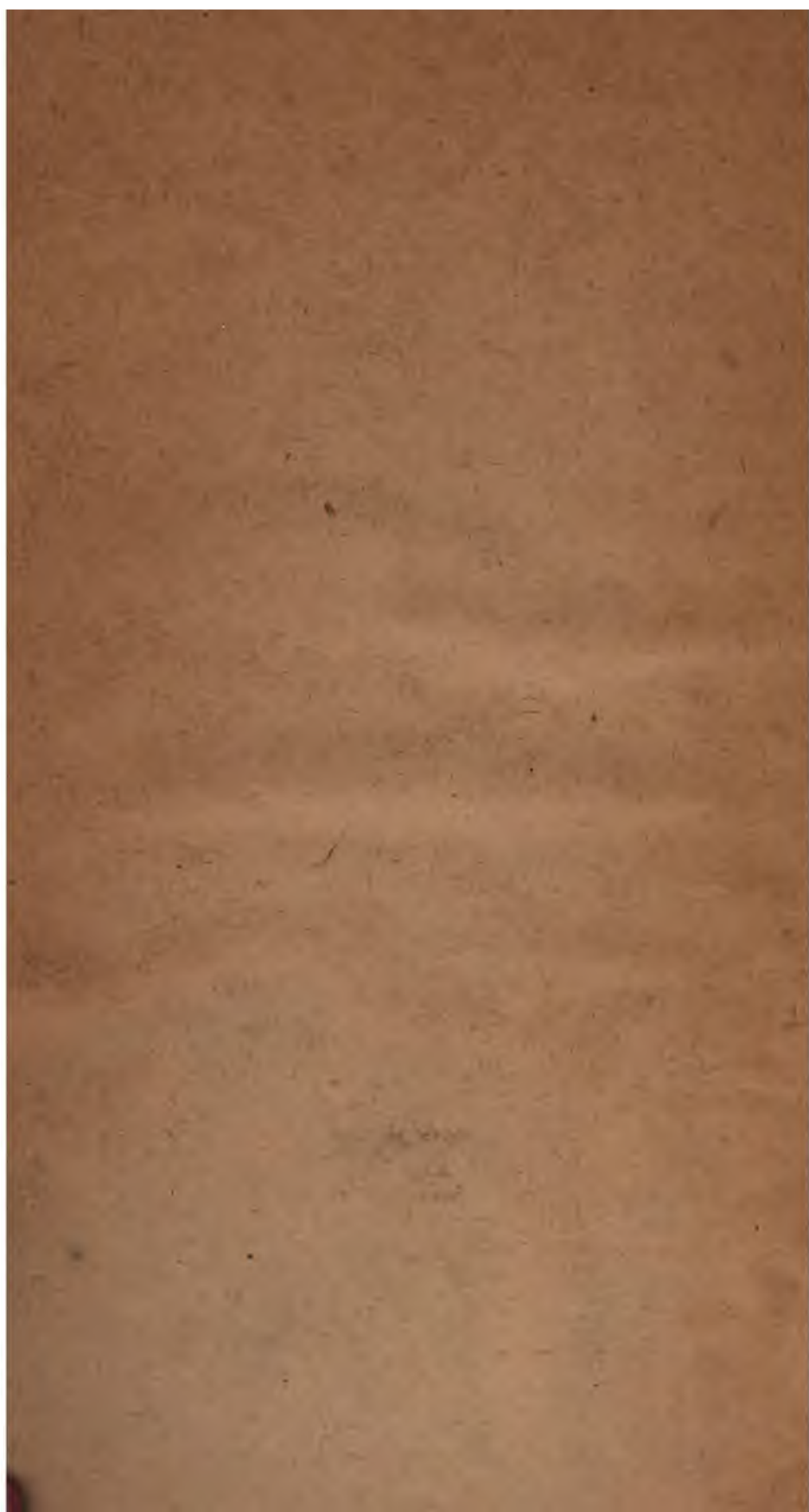
explanatory memorandum.

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SCOTCH EDUCATION DEPARTMENT.

**A selection of Circular Letters of
the Scotch Education Department,
1898 — 1904, with Explanatory
Memorandum.**

Presented to both Houses of Parliament by command of His Majesty.



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1904. /

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PREFATORY NOTE.

It has frequently been suggested that, for the better understanding of the general aims of the Department and for convenience in the discussion, either of existing regulations, or of new legislative proposals, it would be desirable that the principal Circular Letters of the Department should be issued in a form easy for reference, and with such explanation as might enable those not conversant with technical details to understand the general policy pursued. It is with this purpose that I have had this collection of Circular Letters prepared, prefaced by an Explanatory Memorandum.

The selected documents are not merely incidental to the ordinary routine of administration, but are those which possess special significance as reflecting that very important stage in the organisation of Education in Scotland which is marked by the tenure of office of my predecessor, Lord Balfour of Burleigh, especially the period from 1898 to 1903.

The period thus closely associated with the name of Lord Balfour has been a very critical one in the history of Scottish Education, and the results of his administration must remain, whatever further developments may now lie before us, as a contribution of great and permanent value to the cause of efficient and enlightened educational organisation.

The Memorandum deals with this period alone and does not attempt to discuss any of the proposals for administration contained in the Education Bill of this Session.

A. GRAHAM MURRAY.

May, 1904.

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EXPLANATORY MEMORANDUM.

On April 1st, 1898, the administration of Science and Art grants in Scotland was handed over to the Scotch Education Department. This brought the whole field of Scottish education (outside the Universities) within its purview, and enabled Their Lordships to set about the construction of a complete and well-articulated system of national education, at once wide enough and elastic enough to meet the needs of all classes. The changes which They made with this end in view were first given to the public in a series of circulars and minutes, extending over more than five years, but all directed towards this one object, and all inspired by a few simple principles. What these principles were will, it is hoped, become clear now that these circulars are brought together in one volume.

Introduct

The nature of Their Lordships' task will be best appreciated by considering separately the subjects of (1) Elementary Education, (2) Intermediate Education, (3) Secondary Education, (4) Continuation Classes, and (5) the Training of Teachers, starting in each case with the state of things which existed prior to 1898, and showing the progress that has been made up to this date.

I.—ELEMENTARY EDUCATION.

Elementary education prior to 1898, might have been defined as "education up to the Sixth Standard"—a stage which the average pupil could reach without much difficulty by the age of 13. What provision existed for those who had passed this Standard will be shown in the next section; but first it has to be noted that even this moderate level was never attained by many pupils. For by the regulations then in force the inspector was obliged to examine every child in Standards III. and V. as for a Labour Certificate, which carried with it, in the former case partial, in the latter complete, exemption from further attendance at school. Many parents in quite good circumstances took advantage of an exemption which was not meant for them, with the result that in many quarters, especially in the great manufacturing towns, the Fifth Standard came to be looked on as the natural end of a child's school course. Plainly no general improvement was possible till this leak was stopped. Accordingly, by a Minute of 16th May 1898, Their Lordships completely divorced and separated the Labour Certificate from the ordinary annual inspection, and made it known that parents who desired such a certificate for their children must make individual application through the School Board. This had a most salutary effect. As soon as it came to be understood that the Labour Certificate was not meant to be taken advantage of by those who were in good circumstances, it fell into discredit and

Extent of
elementar
education
prior to 18First step
towards
improvementAltered
arrangement
as to presentation
for Labour
Certificate

the attendance in the higher classes went up by leaps and bounds. It is true that the Merit Certificate, which will be mentioned presently, continued to confer exemption as a matter of right and not as a concession to necessitous circumstances; but it could not be obtained without at least another year's attendance, and in fact, in the absence of any regular provision for further instruction in ordinary schools, teachers and inspectors tended to push the standard up towards the statutory age of 14. Finally, by the Education (Scotland) Act of 1901, exemption by examination was abolished altogether, and School Boards were invested with the power of exempting children over 12 whose circumstances justified exemption. How scrupulously this power has been wielded by the best Boards may be judged from the fact that the School Board of Glasgow, with 100,000 children under its charge, granted only 235 exemptions during the first year of the Act's operation. This Act conferred another benefit on poor children by further limiting casual employment after school hours; and, finally, the Employment of Children Act of the same year empowered Boards to pass byelaws regulating the employment of children at any time of the day.

The same circular (No. 223) which explained the new procedure as to Labour Certificates also foreshadowed those comprehensive changes in the elementary curriculum, the methods of inspection, and the payment of grants, which were to be embodied in the Code of 1899. Hitherto the elementary curriculum had consisted of a large number of subjects, many of which were optional, and the grant was made up of a large number of items, most of which were variable. For every subject in every class a rigid scheme of work was laid down, which must be followed in the "elementary subjects" (reading, writing and arithmetic), and was generally followed in all. At the end of the year every class was examined in every subject on the work thus prescribed, and on its performance at this single examination the rate of grant depended. Even on financial grounds this plan was objectionable. The grant earned by any school might vary from year to year while the expenditure remained constant. This could not be considered fair. When, as under the system prevalent in this country, a large share of the expenditure falls on the local authorities, they should be able to count on a fairly constant measure of State aid, so long as they maintain their schools in a reasonable state of efficiency. The educational objections were still more serious. The curriculum was sometimes too narrow and one-sided; sometimes it was over-weighted with "specific subjects." Even music and drill were optional; science figured only as an optional subject for boys, and drawing received no recognition from the Scotch Education Department at all. Drawing grants might indeed be earned from the Science and Art Department, but only the larger Boards, as a rule, included this subject in their time-tables. The fixed schemes of work left no room for the teacher's initiative.

Even had these schemes been perfect, a teacher had no such parental interest in them as he would have had in a scheme of his own invention. Finally, the pressure of the annual examination, while doubtless securing a degree of efficiency, was fatal alike to free teaching and to free classification. Theoretically a child might be advanced more than one Standard in a year; but the passing over of a Standard meant a huge leap; and as it was more profitable that a boy should do excellently in Standard IV. than merely well in Standard V., there was every temptation to keep him in the lower Standard, even when he had ceased to profit by it. In fact it was frequently found that the better pupils had covered the whole year's work long before the end of the session, and marked time for weeks or months while the teacher drilled the dullards to a state of mechanical perfection, which vanished as soon as the inspection was over. Accuracy was all-important. So in arithmetic the pupils were practised incessantly in working long strings of stereotyped examples; in history and geography, where a certain period or a certain country was prescribed for each year, memory work overshadowed intelligence.

For this system of variable grants, promiscuous curricula, and standard examinations, Their Lordships substituted (1) a fixed grant, (2) an organically connected curriculum, and (3) a single comprehensive examination at the end of the whole school course.

(1). The first of these reforms had already been introduced in tentative fashion in earlier Codes, particularly in the payment of grants for manual instruction, a subject which was added to the Code of 1898 when Science and Art grants were entrusted to the Scotch Education Department. Provided that an approved course was given by a qualified instructor in suitable premises, a uniform grant was paid on the basis of attendance. This principle was now extended. A small variable margin was left, whereby the inspector might distinguish special excellence or stigmatize inferiority; but this margin was not so large as to disturb the school accounts materially. Serious deductions were treated as penalties to be reserved for serious offences.

Important
changes
introduced.

A fixed
Grant.

It is interesting to note that in abolishing payment by results Their Lordships were not introducing a new principle but reviving an old one. Payment by results was an innovation of the "Revised Code." It was needed, no doubt, in its day, to secure a modicum of efficiency in all schools, but by 1898 it had served its purpose, and Their Lordships felt themselves free to return to the original principle, viz., that Parliamentary grants were not rewards for successful teaching but aids to local effort. At the same time, Their Lordships hold with equal firmness that (except in distinctively State institutions) Imperial aid should supplement, but not supersede, local effort, and They believe that the new mode of inspection, while leaving a free hand to the local authorities, yet guards against waste of public money better than the old system ever did.

(2). In 1898 drawing had been recognised by the Scotch Education Department, and the list of elementary subjects was complete. These were now organised into a true elementary course which provided not only for the instruction of the children in the statutory subjects of reading, writing and arithmetic, and in such recognised auxiliary subjects as would promote intelligence, observation, and self-expression, but for their systematic training in morals and manners and in manual and recreative exercises. Special emphasis was laid on correct speaking ; and nature knowledge, which replaced elementary science, served to counterbalance mere book-learning. Such a curriculum, Their Lordships believed, would help to develop every side of a child's nature, and to cultivate his moral and physical no less than his intellectual powers. In order to counteract the tendency to regard the acquisition of knowledge as the end-all of school work, Their Lordships thought it desirable in subsequent circulars to lay special stress upon the importance of physical education (Circular No. 279) and of moral training (Circular No. 347), while in paragraph 6 of Circular No. 374, They summed up Their view of the object of school training as preparation for good citizenship in the widest sense of the term.

(3). But though the constituents of the curriculum were thus fixed, and the limits of the various subjects broadly indicated, no definite scheme of work was laid down in any subject, drawing and needlework excepted. Instead of this every teacher was asked to submit a scheme of work showing what he proposed to do, and to keep a record showing what he had actually done. This made possible a complete change in the method of inspection, the key to the which will be found in the new regulations for the Merit Certificate. For some years before 1898, the Department had issued a Certificate of Merit to pupils over 13, who had passed all the Standards and reached a certain stage in "specific subjects." In 1898 the age was lowered to 12, and the reference to "specifics" disappeared. The Merit Certificate thus became simply a certificate of proficiency in elementary subjects. This Merit Certificate was now taken by Their Lordships and set up as the goal to which every pupil in an elementary school should aspire.

The requirements, defined in the broadest terms, were ability to read, write, speak, and understand plain English and to perform simple calculations. All intermediate standards were abolished, the teachers being required simply to bring up their pupils to this stage by proper gradations. The number of grades was left entirely to the teacher's option, and pupils might be promoted from grade to grade at any convenient term, irrespective of the date of the inspection. Any examination which was thought necessary at intermediate stages was based entirely upon the record of work done, and the inspectors were instructed to take into account such evidence of progress as was afforded by the teacher's own examinations, and by the written exercises of the children. For the Merit Certificate

itself the prescription was, in a sense, absolute, and the examination in the elementary subjects was strictly individual, Their Lordships holding that these subjects must always remain the true kernel of the elementary course ; but the whole scope of the curriculum was considered before Merit Certificates were issued to a school at all, and in the actual conduct of the examination pains were taken to discourage cram. The attempt was not entirely successful, and Their Lordships were contemplating a further advance in the direction of freedom when the Act of 1901 made a fresh departure necessary.

In the interval, however, an important change had been made in the drawing syllabus, by the introduction of free-arm drawing, the insistence on drawing from actual objects, and the encouragement of design. In this, as in all the other changes which have been mentioned, Their Lordships' aim was to make the instruction more real, and the conditions of teaching simpler, so as to give free play to the originality of pupils and teachers.

By the Act of 1901 the Merit Certificate ceased to be a certificate of exemption. It became necessary to devise a further course of instruction for the pupils who had attained that stage, and who were now obliged by statute to remain at school till they were 14. After full consideration Their Lordships put forward suggestions for such a course in Their circular letter (No. 374) of 16th February, 1903. To judge properly of these suggestions, it is necessary to bear in mind the precise class of pupils for whose benefit they were intended. They were meant for pupils who had fairly completed a primary course, and did not desire a secondary course. Such boys and girls, Their Lordships thought, would employ the last year of their school-life better in consolidating the knowledge which they had already acquired and in giving it a practical turn towards those affairs of life on which they were about to enter than in adding to it a smattering of new subjects which they had no intention to pursue. Experience of evening schools had shown how soon school-learning vanishes in the years of adolescence, and every schoolmaster knows how hard it is to convince his pupils that what they learn in the class-room has any meaning in the street. To lay a little more firmly the foundations of intelligent work, good citizenship, and rational enjoyment—these were the objects of the circular ; and of these the last was not the least important. Even in the so-called practical subjects of the Sixth Schedule, Their Lordships' prime aim was educational : They sought not to anticipate the counting-house or the workshop so much as to awaken an interest in principles by showing their bearing on practice. The method appropriate to such a course is individual study under proper guidance rather than class teaching, and its success will be judged less by the information which the pupils have acquired than by the habits which they have formed of applying what they know, finding out what they wish to know, and expressing what they have found.

Drawing.
Change in
syllabus.

Education
(Scotland)
Act, 1901.

Suggestions
for supple-
mentary
courses of
instruction.

Their aim.

Examination
prior to
entering on
course.

To the pupil who has completed such a course a Merit Certificate will be issued. To enter on the course he must pass a qualifying examination which follows the lines of the old Merit Certificate examination, but is narrower in its scope, inasmuch as another year's work in the elementary subjects is now secured. But the qualifying examination is not—and here the reforms begun in 1899 have been consummated—an examination of individual pupils by an external examiner. The teacher himself puts forward a list of such pupils as he thinks qualified, and files their written exercises in support of his opinion. The inspector simply tests that opinion by a scrutiny of the exercises or by such control examination as he may find necessary.

Changed
duties of the
inspector.

It is important to point out here the complete change which this implies in the inspector's duties. Instead of examining individual pupils, scheduling results, and assessing grants thereon, he can now devote himself to watching the actual processes of instruction, comparing methods, scrutinising the curriculum and the machinery of classification, and discussing with managers, headmasters, or class-teachers the best means of increasing the efficiency of the schools under his charge.

II.—INTERMEDIATE EDUCATION.

stepping-
stones to
secondary
education.

Scotland is justly proud of those many sons of hers who passed straight from the parish school to the University. Nothing could be more alien to Their Lordships' purpose than to set up any barrier to the free rise of talent. Certainly this scheme of Supplementary Courses sets up no such barrier. These courses are not intended to replace or to rival secondary education. Pupils who mean to proceed to a course of secondary education should not enter on a Supplementary Course at all. They should be transferred, if possible, to a Higher Grade or Higher Class School at the age when the study of secondary subjects begins there. Owing to the general progress of education and the increasingly high standard of the University Preliminary Examinations, there is no longer the same possibility of direct transference from the parish school to the University as there was a generation ago. Nor, fortunately, is there the same necessity for it. The great increase in the number of higher schools, in the facilities of travel, and in the provision of bursaries has naturally made these schools, in populous districts at least, the main road to the University. But in many country districts there is no higher school within reach. There the parish school must do the work if it is to be done at all. A secondary course must go on side by side with the Supplementary Course, the additional expense which this might entail on small schools being largely provided for under the Minute of 28th May, 1903. In the remoter schools, pupils might in this way be carried up to the stage of the Leaving

Special case
of remote
country
schools.

Certificate. In schools less unfavourably situated, transference to a high school might still be possible, though at a somewhat more mature age than in urban districts. The difficulties which have hitherto attended such transference can be overcome only by regarding all the schools in a district as parts of one system, and by conforming the secondary work which may be done in elementary schools to the practice of the secondary school to which pupils will be transferred. On their part, too, the secondary schools might simplify the problem by modifying their curriculum, without any real loss to any class of pupils.

Difficulties
of transfer
and their
solution.

In all this there is a principle implied, which it may be well to state expressly, since it has guided Their Lordships in Their treatment, not only of Supplementary Courses, but of the class of schools which next falls to be considered. Their Lordships hold, then, that the various grades of education are not successive stages which can be superimposed one on another, but are, to some extent, parallel courses, resting on a common foundation, but crowned with different superstructures. This common foundation is the primary grade, ending about the age of 12 with such a knowledge of the fundamentals as the qualifying examination is meant to guarantee. Above this Their Lordships think that three types of further instruction may be defined—the Supplementary Course for pupils who leave school at 14, the Higher Grade School for pupils who stay on to 16, and the Higher Class School for those who remain to University age. The curriculum proper to each grade will depend partly on the length of school life, partly on the future occupations of the pupils. It was the great weakness of Scottish education in the past that, beyond the elements, only one type of education was generally recognised, and the work of pupils beyond the Standards was limited as a rule by the requirements of the University Arts curriculum.

Types of
education.

Up to 1898 the gap between the Elementary and the Higher Class School was filled up with certain scraps of secondary subjects and of so-called practical subjects, to each of which a grant was attached. Their Lordships proceeded to organise these subjects into a curriculum, for which They offered a liberal fixed grant based on the attendance of pupils beyond the Merit Certificate stage. In this curriculum provision was made for drawing and a substantial grant was offered for experimental science, while true practical subjects like cookery and laundry work took the place of purely theoretical instruction in domestic economy. But the table of "specifics" was retained and the type of education remained in most cases essentially secondary. These courses were known as "Advanced Departments." The best of them were, in effect, more or less satisfactory substitutes for High Schools, and did good work on High School lines; the others gave at least a fragment of a High School education.

"Advanced
Depart-
ments."

Higher
Grade " Schools.

But already (August 19th, 1898) by the commutation of Science and Art grants, Their Lordships had been enabled to put forward proposals for the creation of an entirely new type of school. These Higher Grade Schools, as they were called, were established by the Code of 1899. They were intended for pupils who remained at school up to the age of 16 or so, and who looked forward to a commercial or industrial rather than to a professional career. The curriculum was predominantly scientific or commercial, though general education was not neglected. Practical work in science was fostered by a liberal grant. The circular (No. 221) also promised a Leaving Certificate in practical science, and a general certificate which should testify to the successful completion of the full higher grade course, like the Merit Certificate in the Elementary School. The meaning of these promises will be more conveniently considered in the next section.

Curriculum
leading up to
the Inter-
mediate
Certificate.

With the establishment of Supplementary Courses in 1903, Their Lordships felt justified in taking a further step. It seemed to Them that the needs of those pupils who left school at 14 were fully met by the Supplementary Courses, while pupils who remained to 16 might with advantage postpone specialisation in technical or commercial subjects to their last year, and thus clear the field for a fuller course of general education. The Advanced Department as a separate grade was therefore abolished altogether, and the larger Advanced Departments were offered the status of Higher Grade Schools on a well-balanced curriculum of general education, extending over three years, and leading up to the Intermediate Certificate. This curriculum comprises, on the one hand, English, history, geography, and languages; on the other, arithmetic, mathematics, science, and drawing. Realistic studies bulk more largely here than in the traditional secondary course; but by the operation of the new regulations for the Leaving Certificate Examination in mathematics (see page 13), it is hoped that these studies will be drawn together more compactly, and the literary side of the curriculum will receive the prominence which is its due. Pupils who have completed such a course may in a final year of study concentrate on technical or commercial subjects, and obtain a Technical or Commercial Certificate appraising their attainments in all subjects of the course. These certificates would form a passport from the intermediate Day School to the Central Institutions mentioned in Section IV. Many of the better equipped Advanced Departments have already accepted this curriculum, and it is hoped that it will gradually replace the earlier type of Higher Grade School altogether.

III.—SECONDARY EDUCATION.

Higher Class
Schools.

Higher Class Schools receive no grant under the Code. Such State-aid as they receive comes from four sources:—(1) The Customs and Excise Act of 1890, (2) and (3) the Local Taxation

Account Acts of 1892 and 1898, and (4) the grant for Science and Art instruction. The first of these sums is administered by the Town and County Councils; the second, by the Burgh and County Committees; the others, by the Department itself. The Town and County Councils give about two-thirds of their grant to education, but most of it goes to Continuation Classes and Teachers' Classes rather than to secondary education in Day Schools. The Burgh and County Committees apply their grants entirely to secondary education, but State-aided Schools participate as well as Higher Class Schools proper. To counterbalance this the Department excludes State-aided Schools from sharing in the third item. Their Lordships have used Their influence with Councils and Committees to prevent overlapping; and several of the Councils have been induced to entrust the distribution of their funds to the Committees. They have urged the Committees to strengthen central schools of proved efficiency rather than to dissipate their grants over all schools that were teaching secondary subjects in any shape or form. They have discouraged the assessment of grants by individual results, and in the allocation of the sum which remained in Their own hands have followed the principle already explained of aiding local effort rather than of rewarding individual success.

But it is chiefly by means of the Leaving Certificate Examination and, in a lesser degree, by Their administration of the grants transferred from the Science and Art Department that Their Lordships have been able to influence the Higher Class Schools. Many of these schools had eked out their scanty revenues by presenting pupils for examination by the Science and Art Department. It may be suspected that the need to earn a grant was sometimes the main motive for the study of science, and the grant earned the most tangible result. The method of payment on fixed examination in separate subjects lent itself to this. Grants were at first paid simply for individual successes; but by 1898 this system was generally abandoned except for Honours, and in other stages the grant was calculated on attendance. But the rate of grant varied within wide limits according to the results of examination. The South Kensington Department did inestimable service to the country by diffusing a knowledge of Science and Art in all quarters. But it was essentially a grant-paying and examining Department. It could not take account, as a rule, either of the general course of instruction followed by any candidate, or even of the combination of subjects in which he was presented. It applied the same test to the High School boy as to the artisan student. Written examination on a prescribed syllabus tended to emphasise unduly the examinable side of every subject. The text-book and the lecture held the field. Little practical work was attempted except in chemistry, though this was perhaps due in part to the real or supposed cost of physical apparatus. Moreover, the scale of grants generally made large elementary classes more profitable than small advanced classes.

Sources of
their State
aid.

Old system
examination
and grant
under the
Science and
Art Department.

Schools of
Science.

Altered sys-
tem of pay-
ment of
Science and
Art Grants.

To this method of payment there was one important exception. Organised Science Schools (afterwards called Schools of Science) were paid on a curriculum, which provided for real experimental work. The curriculum, however, was too exclusively scientific for general adoption. In fact up to 1900 there were only twelve organised Science Schools in Scotland, and even in these it was far from general to have the whole school thus organised. Much more often a section of the school was arranged as a "Science side." By a Minute of 24th August, 1900, both these methods of payment were commuted for a grant paid on the average attendance of qualified pupils at approved courses in experimental science, drawing, and manual instruction. The conditions were further relaxed by a Minute of 30th May, 1903. It is not necessary that all the pupils of a school should take all or any of these courses, and grants are paid on drawing and manual instruction if a reasonable proportion of the pupils engaged on these branches take science as well. Last year as many as forty-eight schools received grants on this footing, and considering the importance of the subjects, the elasticity of the conditions, and the improved mode of inspection, Their Lordships hope that in time all Higher Class Schools will embrace the terms of the Minute, so far at least as to make these subjects an integral part of their general curriculum in its earlier stages. Up to a certain point, in fact, such a curriculum would not differ materially from the curriculum of general education previously outlined for Higher Grade Schools, though it might provide for a beginning in some subjects (*e.g.*, Greek) which Higher Grade Schools as such do not attempt. Beyond that point the types would diverge; but, whatever the type, Their Lordships would quite approve of pupils in their last year concentrating to some extent upon those subjects for which they showed special gifts.

Science and
Drawing in
the Leaving
Certificate
Examination.

It follows that science and drawing have been brought within the scope of the Leaving Certificate Examination. But a consideration of the nature of these subjects suggested a mode of examination different from that hitherto pursued. In science the examination is chiefly oral and practical; it is conducted at the school, and is based on the work that has actually been done there; full weight is assigned to the teachers' marks and the pupils' own records. Only by experimental work systematically recorded can scientific habits be formed, and only by an examination of this kind can the value of such work be tested. A certificate thus gained proves something more than that the candidate has passed a certain examination. Their Lordships attach special importance to the principle of associating the teacher with the inspector, as in effect a co-examiner whose opinion on the work of his own pupils deserves the weightiest consideration. Again it is interesting to note that this is no novelty. It is, in fact, the traditional method of the Scottish Universities in conducting their examinations for degrees.

In introducing these new subjects Their Lordships felt free to modify the method of examination as circumstances seemed to require. The older subjects stand on a different footing. In these, passes have long been accepted by many important bodies—above all by the Scottish Universities—in lieu of their own entrance examinations, and the responsibility which Their Lordships have thus incurred renders it impossible for Them to make any material change in the mode of examination until They have obtained the consent of these outside bodies. They have done what They could, however, to mitigate the abuses to which all external written examinations are liable. They have induced the County Committees to abandon payment on individual Leaving Certificate results. But though the pecuniary temptation no longer exists, the practice of presenting pupils in separate subjects and of estimating the success of a school by the number of individual passes is still rife. Their Lordships have ceased to issue certificates in single subjects, and have established instead an Intermediate Certificate and a Leaving Certificate, which are meant to attest the successful completion, the former of a higher grade course, the latter of a full secondary course. To prevent over-pressure, They have fixed the age for the former at 15 as a lower limit, and for the latter at 17. Certain combinations of passes in the written examinations are required for both certificates ; but it is wholly wrong to regard either as a mere combination of passes in separate subjects. A full and well-balanced school course, such as these certificates are meant to cover, contains subjects which cannot be tested by written examination. The written examinations, therefore, are supplemented by inspection, the object of which is to inquire into the scope of the course, and the character of the teaching ; and in particular to ascertain whether the candidates for certificates have actually gone through a proper course of instruction, have read some of the classics in whatever language they profess, and in modern languages have not neglected the training of the ear and the voice. If the result of this inspection is unsatisfactory, candidates may be excluded from the written examinations altogether. In the written examination itself those aspects of the various subjects which lend themselves to cram have been discouraged. In mathematics a momentous change has been made by the abandonment of Euclid as the sole accepted text-book in geometry, and the substitution of a general syllabus which will allow the different branches of mathematical study to be brought more closely together and more intimately connected with science and drawing. This change, Their Lordships hope, will not only make the teaching of mathematics less abstract, but by drawing these related subjects into a compact group will secure for them in time a more adequate treatment as part of the general secondary curriculum, at least in its earlier stages, without in any way menacing the rightful predominance of literary studies. At the same time it is obviously in accordance with Their Lordships' principles to recognise other types

Leaving an
Intermedia
Certificates

Conditions
award.

Mathe-
matics.

Special group of secondary courses, provided that they serve a definite purpose. certificates. To pupils who have completed them, They are prepared to grant special group certificates, but They prefer to reserve the name "Leaving Certificate" for a certificate which includes mathematics and either science or Latin, and so guarantees that its possessor is fit to enter a University or a technical college on the University level, such as the Central Institutions to be mentioned in the next Section.

IV.—CONTINUATION CLASSES.

Provision made prior to 1898.

Up to 1898, young people who had left the Day School might continue their education either in the Evening Continuation Schools, under the Scotch Education Department, or in the Science and Art Classes, conducted under the Directory of the Science and Art Department. The two sets of classes overlapped to some extent, for the Continuation Schools gave elementary instruction in some Science and Art subjects. In the main, however, these schools aimed at supplementing the defects of elementary education, and higher work was left to the Science and Art Classes. Several of the Town and County Councils also maintained independent classes in various technical subjects, from some of which students went forward for examination by the City and Guilds of London Institute and the Society of Arts.

Changes introduced with the Continuation Class Code.

For this heterogeneous collection of classes, Their Lordships, in 1901, substituted a completely organised system, framed on broad and simple lines, and adapted to the needs of all sorts of students. The elementary work of the old Continuation School was provided for under Division I. Exercises like music and gymnastics might be pursued systematically under Division IV. But the characteristic features of the new Continuation Code were the regulations for Divisions II. and III., which replaced the old Science and Art Classes, and above all the provision made (in Section 87) for the subsidising of Central Institutions. In this connection it is important to note that Continuation Classes under the new Code may be held at any time of the day. This provision removed one of the chief difficulties which formerly beset continuation work in rural districts.

Defects of the old system.

The nature of the Science and Art Classes, or, rather, of the examinations by which they were entirely dominated, has been sufficiently explained in the preceding section. For the lad who came to study the principles of his trade or occupation the system had some peculiar drawbacks. The subjects of the Syllabus could not always be built into a course which really met his particular needs; advanced work was at a discount; the classes were frequented by pupil teachers and acting teachers in quest of examination marks, a fact which helps to account for the comparative neglect of applied art; and the instructors were too often persons who had little or no practical knowledge of their subjects, but had passed examinations in them merely in order to acquire the right to teach them to others.

Their Lordships abolished payment by results, written examinations, and prescribed syllabuses, and proceeded to form a register of qualified teachers. The Science and Art examinations remain, and students may, if they choose, go forward to them, but they form no part of the Continuation Class system, and their results in no way affect the rate of grant. In place of these examinations Their Lordships permit local managers, on the inspector's recommendation, to issue certificates of their own, and after this session certificates will be issued by the Department itself to students who have completed a full three years' course with credit; these certificates will be accepted as qualifying their possessors to teach the subjects which they cover. Their Lordships have indicated, broadly, the kind of subjects on which They are prepared to pay grants, but They ask managers to frame syllabuses adapted to the needs of their own locality. By a graduated scale of grants They encourage the formation of well-graded courses extending over several years, and giving a systematic training in the principles of some definite occupation. This substitution of "courses" for "subjects" is indeed the keynote of the Code. The object of these classes is not to teach science in general or art in general, but to turn out mechanics, engineers, architects, farmers, each skilled in the principles of his own craft. To teach such students needs more than theoretical knowledge, and Their Lordships will not accept any teacher whose qualifications are not sufficiently attested by certain recognised diplomas or specially guaranteed by their own inspectors.

Award of
certificates.
By Managers
By the Department.

Syllabuses.

Substitution
of "course"
for
"subjects."

Register of
qualified
teachers.

But no system of technical education is complete which does not provide for work at the University level, for that individual study and research which, however few may be fit for it, is yet of paramount importance to the progress of knowledge and the prosperity of the country. In some of the large towns there already existed institutions, imperfectly organised perhaps, but equipped and staffed for work of a very advanced kind. These institutions Their Lordships determined to subsidise in such a way as to relieve them of elementary work and set them free to develop their advanced instruction to the highest possible point. Such Technical Universities, as they may be called, will form the crown of the Continuation Class system, as the older Universities form the crown of the Day School system, and will influence the courses of study in the classes which lead up to them in the same way as the Universities determine the curriculum of secondary schools. Their influence, indeed, will be even more direct; for while the older Universities content themselves with prescribing the subjects and fixing the standard for entrance, the experts of these central institutions will actually assist in framing the syllabuses of the preparatory stages of study in the Continuation Classes of their district. And as the Universities provide bursaries to assist deserving students, so are there local scholarships established to carry on deserving students in Continuation Classes from the preparatory stage up to the central

Central
Institutions
for advanced
work

institution or even to send them abroad to complete their studies in modern languages. The Department doubles the value of any scholarship offered by local authorities.

ne
tances.

This is no mere ideal. In the larger cities it has been to a great extent realised. Among other instances the Aberdeen scheme may be cited as a model of complete organisation. Here, the Gordon's College and Gray's School of Art has been erected into a central institution, to which all Continuation Classes throughout the city lead up by a well-graded scheme framed conjointly by the Aberdeen School Board and the Governors of Gordon's College. All over the city are dotted preparatory and domestic classes, from which the students proceed to elementary technical institutes, five of which are planted at convenient centres, and from them in turn to the two higher technical institutes, and so to the central institution. Admirable courses have been arranged in every combination of subjects that the needs of local industries can demand. In all of these the directing influence of the central institution can be clearly traced. Its ideas and methods percolate through every stratum of the preparatory courses. Glasgow possesses three great central institutions in the West of Scotland Technical College, the Glasgow School of Art, and the Athenæum Commercial College. An arrangement similar to that which obtains in Aberdeen has been come to between the Governors of these institutions on the one hand and the School Boards of Glasgow and Govan on the other. Within a year this scheme will be in full working order; and when the new buildings of the Technical College are completed, this great industrial community will possess a system of technical education in the widest sense, which will bear comparison with any similar organisation in any country. The last step will be taken when these institutions are linked to the allied departments of the Universities.

employers'
port
essary.

The machinery is there and it is running. How far the nation is to profit by it depends now on the action of employers and of trade associations in giving apprentices and other young persons opportunities for attending these classes and credit for successful study.

gricultural
cation.

Agricultural education presents a more difficult problem. But already good progress has been made towards its solution. For the highest stage provision has been made by subsidising agricultural colleges and departments under the management of members of the County Councils and other persons thoroughly representative of the agricultural interests of the district. It is hoped that these colleges will not only provide directly for the teaching of the most advanced students, but that their influence will permeate the lower grades of instruction also. Some foundation for their work has been laid in the nature knowledge course of the elementary school. The interval has now been filled up in part by the establishment of Supplementary Rural Courses in country schools, and in part by the institution of Farmers' Courses and other series of lectures.

delivered by the officers of each Agricultural College throughout its own district.

A similar organisation of Navigation Classes in seaboard parishes will ultimately, it is hoped, be effected under the direction of one or more central Schools of Navigation.

V.—TRAINING OF TEACHERS.

The normal course of training for certificated teachers in Scotland is briefly as follows :—Promising boys and girls who possess certain qualifications may be apprenticed as pupil teachers at fourteen (or sixteen) for a period of four (or two) years, during which they assist in the schools for part of the day and for the rest receive suitable instruction. At the end of their apprenticeship they must pass an examination, known as the King's Scholarship Examination, or produce equivalent passes in the Leaving Certificate or University Preliminary Examination. Those of the qualified candidates for whom there is room are then admitted to Normal Colleges, where they are trained for a further period of two years. Those who do not gain admission to the Normal Colleges may continue to serve as acting teachers and obtain their certificates by examination.

Normal
course of
Training.

At the beginning of the period under consideration music was an optional part of a pupil teacher's instruction. Marks were first allowed for it in the Code of 1899. Drawing and science were also optional; no papers were set in these subjects in the Queen's Scholarship Examination, but candidates were credited with marks for successes in the Science and Art Examinations. Without dwelling on the intermediate steps, it may be stated summarily that the instruction of pupil teachers in these subjects has now been put on precisely the same lines as have been adopted for Higher Class Schools, *i.e.*, there is a regular course of instruction extending over several years and leading up to an examination identical with the Leaving Certificate Examination in Science and Drawing already described. The essential feature of these examinations, it will be remembered, is that they are based in each case on the approved curriculum and take account of the whole course of instruction, and of the opinion of the teacher on the merits of each candidate. Drawing is now obligatory, but science is still optional. In all subjects and in all years the inspectors are instructed to see that the training of pupil teachers goes on regularly throughout the session in accordance with some consistent scheme.

Pupil
Teachers.
Music.

Drawing
and Science.

Even before 1898, Normal College students had been excluded from the South Kensington Examinations in Science. They were examined, if at all, in their own colleges on an approved scheme which made provision for experimental work. This principle was extended first to drawing and then to all the subjects of the Normal College course. Formerly students in training and acting teachers had to pass one and the same examination for certificates, of course

Students in
Training.

Examina-
tion for
Certificates.

Syllabuses of
instruction in
Training
Colleges.

a written examination on a prescribed syllabus. Every Training College is now invited to put forward a syllabus of its own in the prescribed subjects, which may be pursued partly at the Training College and partly at the neighbouring University; and the marks on which students obtain their certificates are assigned by the various professors and lecturers, and by the principals of the colleges, under the supervision of H.M. Senior Chief Inspector. Instruction in drawing and in nature knowledge forms an integral part of every syllabus. Special attention is paid to the phonetics of English and of any modern language that may be taken up, and even those students who do not specialise in classics receive such instruction in Latin as will make them intelligent teachers of English. The certificate examination is now for acting teachers only.

Classes for
the further
instruction
of Teachers.

When the Code of 1899 made drawing and nature knowledge part of the elementary curriculum, it was felt that some of the older teachers were imperfectly prepared for their new duties, and by Articles 83 (*d*) and 91 (*d*) classes were established for the further instruction of teachers in these and similar school subjects. Town and County Councils and other local authorities might establish such classes upon guaranteeing one-fourth of the actual expenditure. These Article 91 (*d*) classes, as they came to be called, were not intended to prepare students for extraneous examinations, but simply to render teachers more expert in dealing with some sides of their daily school work; and partly to supplement the private studies of those assistant teachers who had not been able to get into a Training College.

Their
success.

The success of these classes has surpassed expectation. They have been established at convenient centres all over Scotland. They have been attended by thousands of teachers, many of whom come great distances. No recent expenditure on education has brought so speedy a return in the form of improved school work. Drawing and nature knowledge, practically unknown in many schools five years ago, are now taught with adequate knowledge and on sound methods in the great majority of Scottish schools. Above all, Their Lordships value these classes for the proof which they have given of the unabated zeal of Scottish teachers.

The general principles which have actuated Their Lordships may now be summed up in a word :—

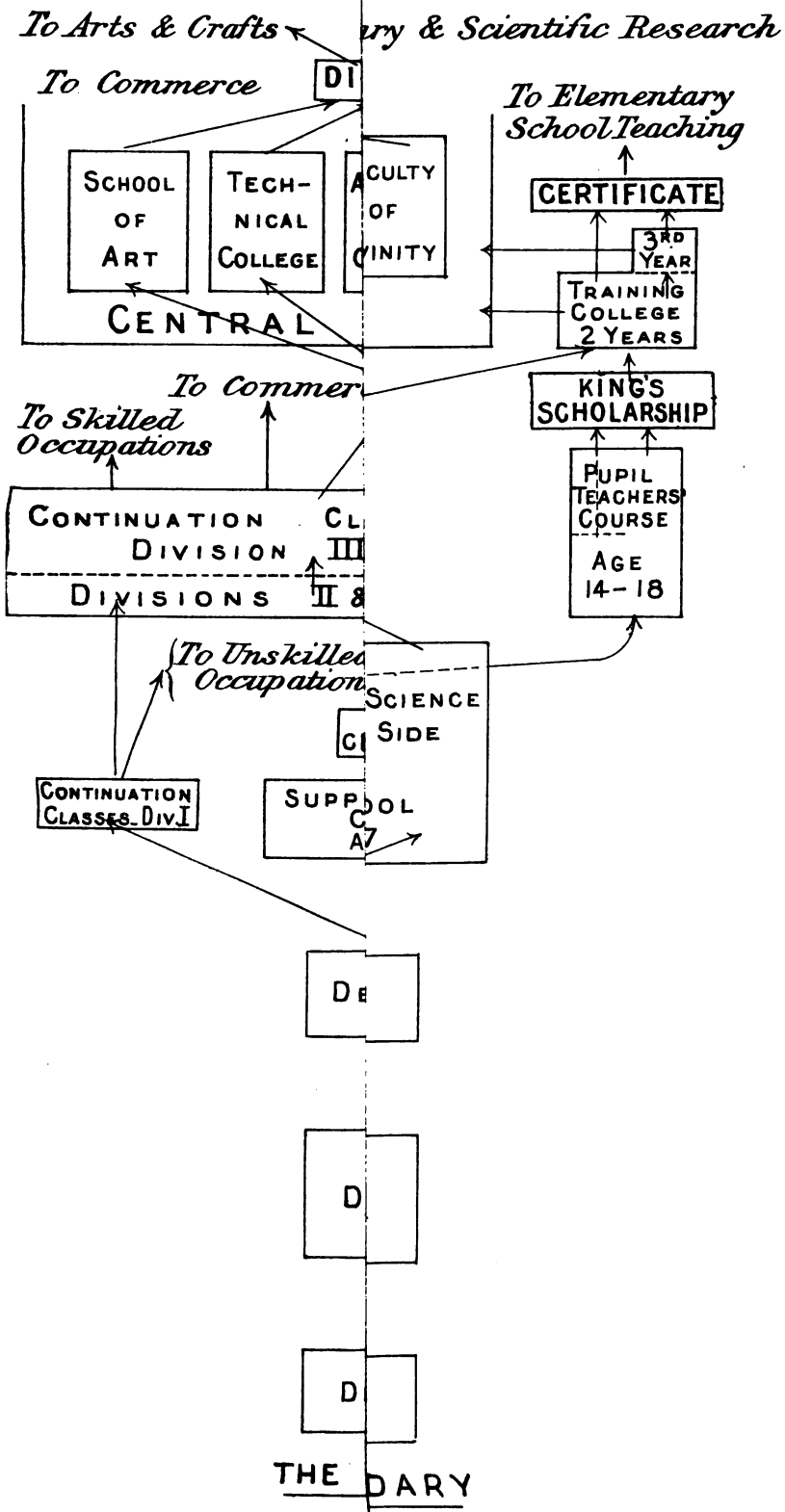
- (1.) They contemplate three distinct grades of Day Schools, each with a well-balanced curriculum of general education, essentially but not exclusively humanistic, and ending in each type with a period of consolidation and concentration on the subjects essential to that type. Specialisation in the strict sense, implying, as it does, a practical acquaintance with some related occupation, Their Lordships would relegate to the Continuation Class system, now fully organised and completed by the inclusion of the Technical College, the Agricultural College, the Commercial College, and the School of Art.
- (2.) In subsidising education in whatever form, Their Lordships have revived the characteristic national principle of dual control. Having satisfied Themselves as to the general efficiency of a school and the adequacy of the local contribution, They desire to leave its internal economy to the teachers and managers themselves, unhampered by considerations of pecuniary results.
- (3.) They propose to test the efficiency of schools, not by written examinations on prescribed syllabuses, but by repeated visits of inspection directed to ascertaining (a) the whole scope of the curriculum and its adaptation to local needs, (b) the success with which the work professed has actually been overtaken. In examinations which are intended to test the merit of individual candidates, the teacher's opinion of his own pupils receives the fullest consideration.

The accompanying diagram illustrates the relations of the various forms of education under the Scottish system. A boy who has passed through the infant, junior, and senior divisions of the ordinary Elementary School will normally (between 12 and 13) enter on a Supplementary Course, at the end of which he will receive a Merit Certificate qualifying him to enter during his apprenticeship on Division II. (or the first year of Division III.) of the Continuation Classes, whence he may ultimately pass to a Central Institution. If, by reason of domestic circumstances, he has to leave school at twelve for unskilled labour, the door is not therefore shut on him. By continuing his elementary education under Division I. of the Continuation Classes, he may rejoin his more fortunate companions in Divisions II. and III. If, on the other hand, at the age of twelve, there is reasonable prospect of his continuing at school for three or four years longer, he should, if possible, be transferred to a Higher Grade or Higher Class School. But where such transference is impossible or

Explanation
of accom-
panying
diagram.

undesirable, provision can be made in the Elementary School for carrying him on to the stage of the Intermediate, or even of the Leaving Certificate, which will open to him the gate of the University. (This is indicated in the diagram by the two narrow oblongs which extend the elementary course.) The Higher Grade School will bring its pupils up normally, by a three years' course, to the Intermediate Certificate ; but there is the possibility (again indicated by narrow oblongs) of a fourth year, for those who aim at a Technical or Commercial Certificate on the strength of which they may pass directly to a Central Institution, and even (if there be no Higher Class School available) of a fifth or sixth year leading up to the Leaving Certificate and the University. The rest of the diagram explains itself. It may be noted, however, that the Leaving Certificate may include either science or Latin and so qualify for entrance either to a technical institute or to a University.

CONSTITUTION



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I. ELEMENTARY EDUCATION.

*Examinations for Labour Certificates.
Merit Certificates.*

Circular 223.

Inspection under Article 10b.

(Circular to Managers of Elementary Schools.)

Scotch Education Department.
11th August, 1898.

SIR,

In bringing under your notice the Minute of 16th May 1898 (*a copy of which is appended to this Circular*), bearing upon the mode of conducting examinations for Labour Certificates, Lord Balfour of Burleigh deems it a fitting opportunity to describe somewhat more fully the objects which my Lords have in view in adopting this Minute and in making certain other changes in the Code which have a close connection therewith. All the changes made are directed towards one end, namely, the raising of the standard of elementary education in Scotland. In Their endeavours to obtain this result Lord Balfour believes Their Lordships will obtain the cordial support and co-operation of School Boards and Managers of Schools.

I. *Examinations for Labour Certificates.*—The effect of the Minute of 16th May 1898 is to make examination for Labour Certificates a personal matter essentially distinct and apart from the inspection or examination of the School for the purpose of determining the rate of grant. This step is essential as a preliminary to carrying out certain changes in the method of inspection which will be referred to hereafter. But it seemed to my Lords to be even more necessary as a means towards removing certain misconceptions which appear to be very prevalent as to the purpose of the Labour Certificate. There seems to be a very widespread impression that the possession of the Labour Certificate is evidence of the completion of a satisfactory course of studies in the Elementary School instead of being, as it really is, a concession for the benefit of parents in necessitous circumstances. It certifies to the *minimum* amount of attainment with which children in circumstances of pressing necessity may be allowed to leave School, and it was never intended that this provision for exceptional circumstances should be taken as the standard of normal attainment.

This misconception as to the nature of the Labour Certificate has doubtless been fostered in part by the practice, which has hitherto been obligatory on an Inspector at his annual visit, of examining all children in Standard V. as for a Labour Certificate, whether it was asked for or not. It seems clear that in not a few cases the passing of this examination was taken by parents to mean that their children had satisfactorily completed the Elementary School course and that their longer continuance at School was unnecessary and useless.

Their Lordships have accordingly resolved that it shall no longer be incumbent on an Inspector to examine individually all children in Standard V. who may be present on the occasion of his visit nor to return a duplicate schedule on which Labour Certificates may be granted. No examination for a Labour Certificate will be held except on definite application transmitted to the Inspector either through the School Board or the Managers of a School.

The examination of those children on whose behalf application is made may be conducted either at centres on occasions duly intimated, or, if found more convenient, on the occasion of an Inspector's visit to the School. In either case the examination for Labour Certificates will be regarded as quite apart from the inspection of the School, and its results will not be an element in assessing the value of the work done in the School.

In country districts it will probably be more convenient to hold these examinations concurrently with the inspection of the School, but in towns and populous districts the candidates will as a rule be required to attend for examination at centres at times fixed by the Inspector, who will, as far as possible, consult the wishes of the School Board or Managers. In these cases the School Board or Managers will provide the Inspector with a list of the candidates to be examined, and it is to be hoped that they will take the opportunity of impressing upon parents the fact that the Certificate is not a proof of the satisfactory completion of the Elementary School course, and that they ought not, unless compelled by circumstances, to deprive their children of the opportunity of a more complete education. Such examinations will not be held oftener than once in six months in any given School Board district.

Children on whose behalf no application is made, or who are unsuccessful in the examination, must be regarded as still under obligation to attend School. Pupils who obtain the Merit Certificate, or who, while failing to obtain it, nevertheless in the judgment of the Inspector show such attainment as satisfies the requirements for the Labour Certificate, will be exempted from further examination for the Labour Certificate.

II. *Merit Certificates.*—The requirements for the Merit Certificate have been altered in the present Code by the omission of all reference to specific subjects. The purpose Their Lordships had in view in this omission was to make the Merit Certificate in effect the Leaving Certificate of the Elementary School proper, as well as a proof of capacity to profit by higher forms of education. In Their view the Merit Certificate on its present basis, and not the Labour Certificate, ought to be regarded as the natural goal of every pupil in an elementary School. It is true that it is still to be regarded as in some sense an honours and not a pass Certificate, and it will not be awarded for anything less than thorough proficiency in the fundamental subjects. It ought nevertheless to be within the reach of any pupil of average abilities who continues in regular attendance at a good school till the age of 13, and may in some cases be taken earlier. There are doubtless School Board districts or parts of districts in which from economic causes some part of the School population must leave School at an earlier age. That is a misfortune but it does not alter the fact that an elementary education whose culminating point falls below the standard of the Merit Certificate is incomplete, imperfect, and proportionately expensive, and it is the duty of the School Board to take all means in their power to raise the standard in these districts. In other districts or Schools, after allowing for a normal proportion of children of less than average intellect, all the remaining children should continue at School till they have obtained the Merit Certificate. The degree to which the Schools of a district approximate to this standard may safely be taken by School Boards as a measure of their success in providing for the efficient elementary education of the children entrusted to their care.

The requirements for the Merit Certificate are stated in Article 29 of the Code (*see Appendix*), but having regard to the importance Their Lordships attach to the certificate as marking in a fairly definite way the dividing line between Primary and Secondary Education, They think it right to state briefly some of the considerations by which H.M. Inspectors will be guided in conducting the examinations. Stress will be laid in the first place on thorough proficiency in the elementary subjects, but the examination will be a test not merely of the possession of knowledge but to some extent of the power of applying it to practical purposes. It follows that the method of examination will be largely oral.

As regards the particular subjects :

1. Ability to read, speak, write, and understand the English Language :—
 - (a) The candidates will be expected to read at sight a passage from a modern author, a magazine, or a newspaper, not containing many

abstruse or philosophical terms, and involving no great complexity of ideas. The passage should be read with good pronunciation and correct phrasing, and in such a way as to be easily intelligible to a listener. A silent perusal may be allowed in the first place.

(b) The candidate should be able to give an intelligible account in his own words of the substance of the passage read both orally and in writing. Their Lordships would lay some stress on the *oral reproduction*, in fairly correct and connected sentences, of the passage read, inasmuch as They have reason to believe that the cultivation of a power of intelligible speech receives too little attention in schools. In the written reproduction orderly arrangement of ideas and greater correctness of sentence formation will be expected. In this exercise perfectly legible and fairly regular handwriting, as well as reasonable freedom from errors of spelling, will be indispensable requirements. The description of an object, or arrangement of objects, the writing of a letter for some definite purpose in proper form, the reproduction of a lesson given by the teacher, the summarising of a chapter of a history book which the pupils have been set to read, may be admitted as alternative exercises, but the essay or theme on abstract subjects as to which the pupils may have no ideas of their own, is to be avoided.

(c) The candidates will be expected to show in answer to questions that they fully understand the connection, direct and indirect, of the clauses, phrases, and sentences in the passage read, and that they have some appreciation of the various shades of meaning conveyed by related words. For this purpose my Lords believe that some study of the derivation of words and some knowledge of parsing and analysis of sentences will be found very useful, but They wish those subjects to be judged of by their results, *i.e.*, by the greater capacity which they give for understanding the full meaning of a sentence of English, rather than by the mere knowledge of the formulæ of grammar.

2 *Ability to perform Arithmetical Calculations.*—A sound knowledge of the Arithmetic prescribed for the various standards up to and including Standard VI. will be expected, but stress will be laid on facility and expertness in the four simple rules, including vulgar fractions, and on the practical calculations required in Standard V., rather than on the more abstruse parts of the work of Standard VI. Readiness in the mental calculation of prices, in the reduction of one denomination of weights and measures to another, in the calculation of percentages, and in simple applications of the rule of three to questions of interest and profit and loss, will be expected. Simple problems which test knowledge of principles will be set rather than questions which involve intricate working.

3. *Instruction in Class Subjects.*—The two foregoing heads comprise the essential parts of the examination in which nothing less than thorough proficiency will be expected. But the programme of every good elementary school provides for instruction in a much wider range of subjects, commonly known as class-subjects. Such subjects are Geography, History, Elementary Science (including object-lessons), Drawing, simple exercises of Hand and Eye and Needlework. In every good school, also, it may be expected that some attention will be given to Music and to suitable physical exercises. My Lords do not propose to test the attainments of pupils at the Merit Certificate stage in these subjects individually. It will be the duty of the Inspector in every school from which candidates for the Merit Certificate are presented, to satisfy himself that the curriculum in class-subjects is of sufficient breadth, that it affords adequate exercise for the various faculties of the children, and that instruction in the subjects selected is regularly and systematically given to all the pupils. Their Lordships are inclined to think that any attempt to secure

enhanced efficiency in the essential subjects of the Merit Certificate by confining the attention of the pupils to those subjects, and depriving them of the stimulus which reasonable breadth of instruction in class-subjects affords would defeat its own ends ; but in any case They will *altogether refuse* to issue Merit Certificates on account of the scholars in any school in which the Inspector reports that the class instruction is unduly restricted in scope or defective in quality, or where there is evidence to show that the candidates for the Merit Certificate have not regularly participated in this part of the instruction. For the purpose of arriving at an opinion on this point, the Inspector will hold a collective examination of the candidates in the class-subjects professed in the school (except English, in which the examination, of the character described above, will be strictly individual). Should any candidate in this collective examination show conspicuous weakness, he may, on further individual examination, be refused the Merit Certificate.

Whatever other subjects may be embraced in the curriculum of class instruction, candidates for the Merit Certificate should have a good *general* knowledge of the Geography of the world, and of the Geography of the British Isles, the Colonies, and Europe in some detail. They should also be able, if set to the study of a good map of a country or district previously unknown, to find out and report the principal particulars of the information to be gleaned from it. In History, they should have a fair acquaintance with the events which form landmarks in English and Scottish History, and know their chronological sequence. They should also be able to explain Geographical references and Historical allusions in the passage selected for reading, if these are not of a recondite kind.

The Certificate issued to successful candidates will certify that they have shown thorough proficiency in the elementary subjects, and that they have completed the course of elementary education in a school, the curriculum of which embraces instruction in certain specified subjects.

III. *Inspection under Article 10b (see Appendix).*—In modifying this Article Their Lordships had in view the gradual introduction of certain changes in the method of inspection, and of estimating the value of school work, which, while removing barriers which may have stood in the way of the due promotion of children from class to class according to proficiency, will enable the actual character of the work of the school from day to day to be ascertained, and will, They hope, conduce to enhanced efficiency.

The whole purpose of the change will, perhaps, be better understood from a brief consideration of (1) certain obstacles to the due progress of the pupils, and the proper balance of work, which They hope to remove ; (2) the manner in which They propose that school work should now be arranged ; and (3) the steps which They propose to take to inform Themselves as to the normal condition of a school.

(1) At present the examination of all the classes of a school takes place at the end of a varying school year (which may have been interrupted by lengthened holidays), and by the appearance made on that occasion the value of the year's work is determined. It is alleged, and Their Lordships believe with much truth, that in many schools the work of the year is practically accomplished a month or two before inspection, and that in the intervening time not merely is no further progress made, but there is a substantial loss of interest on the part of the children from the enforced repetition of work already familiar to them.

Again, it does not appear that the great liberty of classification accorded by the Codes of 1890 and subsequent years has been so fully taken advantage of as might have been expected, the reason being that there was only one convenient period for promotion from class to class within the year, viz., the period after inspection. Teachers seemed to be unwilling to risk the possible diminution of high percentage results in each class which might be caused by promotions within the year. Further, the variations of the school year seem in many cases

to make it difficult for pupils who are necessarily transferred from one school to another to fall into line with the classes of the school to which they are transferred, a consideration which my Lords believe has frequently been an obstacle to the timely transference of good pupils from purely elementary schools to those of a higher grade.

Lastly, They have reason to suspect that in the case of some schools which put forward pupils for the Leaving Certificate, more particularly when payments are made on Leaving Certificate successes by the Secondary Committees, the interval between inspection and the Leaving Certificate Examination is sometimes devoted to a special preparation of those pupils in one or more subjects of the Leaving Certificate Examination, the ordinary curriculum of the school being set aside for those pupils, to the detriment of a sound general education.

(2) As remedies, they propose :—

- (a) That there shall be no fixed month of inspection.
- (b) That the working school year for all schools shall be as far as possible uniform, being determined in each case by the time at which the summer vacation is usually taken in the district. That is to say, the school year shall run from the time of resuming work after the summer vacation till its natural close before the vacation.
- (c) That the working school year shall be divided into three terms or periods. The end of each term will give opportunity for promotion of the pupils from class to class according to proficiency. Revision of previous work should not take place only at the end of the year, or even of each term, but should go on continuously.
- (d) While the standards set forth in the Code may be taken as indicating the minimum of a year's work, which experience has shown might reasonably be demanded in every case, the classification adopted may be independent of those standards. It is Their Lordships' desire that the freedom of classification already accorded should be more largely taken advantage of, chiefly, it is to be hoped, in the direction of securing greater progress. They have already indicated somewhat more fully in speaking of the Merit Certificate what, in their view, ought to be the ultimate outcome of school endeavour, so far as elementary education is concerned. Having fixed this standard, They desire to leave more than hitherto to the discretion of managers and teachers the arrangement of the intermediate steps by which this ultimate standard shall be attained. The exercise of this discretion will be subject, of course, to such reports as H.M. Inspector may from time to time find it necessary to make, but Their Lordships trust that it will be so exercised that it may not be found necessary at any subsequent period to abridge the liberty now accorded. An added responsibility, subject to the authority of the Managers, will now devolve upon headmasters—of large schools particularly—of settling the proper gradation of classes, of arranging a well-balanced curriculum for each, and of determining when promotions from class to class shall be made. By the manner in which a headmaster discharges these duties his share in the success of the school will be largely estimated. Their Lordships recognise that many schools are too large to admit of this duty being effectively discharged by one person, and in such cases They think that some part of the duties for which the headmaster is primarily responsible to the Managers should devolve upon the heads of departments. In particular, They think that in separate infant departments this duty should be largely confided to the infants' mistress.
- (e) That in order to enable H.M. Inspector to judge of the classification of a school, and also of the proficiency of the work, a record of the work done in each class and subject shall be kept (Article 17h.—see *Appendix*). Any examination held—except in the case of candidates

for the Merit Certificates, for which the prescription of work is absolute—will be strictly based upon the record of work accomplished, which should in all cases provide for proper revision. H.M. Inspector will, however, where necessary, report whether the profession of work is inadequate, having in view the stage to be ultimately attained, or whether it is unduly restricted as regards variety of subjects. Their Lordships do not wish to impose any unnecessary burden upon teachers, and They do not ask that the record of work shall be more elaborate than experience shows to be necessary. They are satisfied, however, that every good teacher will find the keeping of such a record to be not so much an encumbrance as a guide to him in his efforts, and an indication to himself of the progress he is making.

- (f) The Time-table of the school will in these circumstances be a matter of careful consideration, and it will obviously be expedient that it should—perhaps, even frequently—be re-adjusted from time to time, but care should be taken that due notice of all changes is given to the Inspector for the district, and the arrangement so intimated to him should in all cases be rigidly adhered to. No Time-table will be accepted which does not provide sufficiently varied exercise for the different faculties of the children, and any departures from the approved Time-table for the purpose of specially preparing children in one or two selected subjects demanded in any examination, whether conducted by Their Lordships, or by some independent examining body, will be visited with the severest penalties.
- (g) Whatever the curriculum of the school may be, and whatever the subjects which it embraces, its principal aim should be the attainment of a thoroughly sound knowledge of the Elementary subjects, corresponding to the standard already described. But that aim should be attained not as a sole result, but as a concomitant of a scheme of general education which provides adequate exercise for the various faculties of the children. It should embrace, in its later stages at all events, some study of History and Geography. It should provide *throughout* for the training of the children in habits of observation, in knowledge of the world around them, and in the accurate and intelligent expression of their observations and ideas. Drawing and kindred manual exercises should form an essential part of the curriculum and the development of the physical powers by drill and gymnastics should receive attention. All these subjects demand time, and too much time may of course be given to any one of them, but in proper combination they tend to make the children alert, intelligent, and masters of their faculties. The attention given to them is not only good in itself, but may result ultimately in progress in the Elementary subjects greater than if the time had been spent exclusively on these subjects. Owing to various circumstances, and particularly to the lack of teachers who have received adequate training in such subjects as Drawing, Experimental Science, and Manual Exercises, some portion of the curriculum thus outlined may have to be omitted, but in all cases it should be regarded as the type to be aimed at so far as circumstances may permit. Their Lordships have under consideration the question of how They may best afford to teachers who have had no previous training in these subjects an opportunity of acquiring a knowledge of them and of how they may best be turned to account as subjects of school instruction.
- (h) There is one thing further which ought to receive the serious consideration of all persons responsible for framing the curriculum of an Elementary School. The years which a child spends in school constitute an appreciable fraction of normal human life, and the years so spent should not be merely a preparation for the future, but should

bring their own satisfaction. That satisfaction during school years is doubtless largely found in play, but experience shows that while on the one hand intervals of relaxation are necessary, the child may derive as much satisfaction from work as from play, if care is taken to ensure that the work at each stage is within his powers, while at the same time it provides sufficient difficulties to keep his faculties on the alert, and afford him pleasure in overcoming them. This is the rule which should regulate progress from stage to stage, and if by means of a well-balanced curriculum and careful gradation of lessons, school work can be made attractive, the difficulty of retaining children longer at school will be greatly simplified.

(3.) The condition of the School will be ascertained by—(a) Examination; (b) Inspection.

(a) *Examination.*—The inspector at one of his visits will direct his attention largely to ascertaining by a somewhat detailed examination the condition of those classes from which pupils commonly leave School, and which as a rule may be taken to represent the ultimate result of the previous course of instruction. The profession of work in these classes must necessarily, in the present condition of things, vary somewhat with the circumstances of the School. In no case will a standard lower than that of the Labour Certificate be accepted. In all cases the standard of the Merit Certificate should be aimed at, and it is to be hoped that in most cases this examination of the actual leaving class of the School will resolve itself into an examination for Merit Certificates. Where the examination is conducted mainly on the lower standard it should be clearly understood that presentation at this examination will not exempt from further continuance at School those children on whose behalf application for a Labour Certificate has not been made, and who have not individually satisfied the requirements thereof. Unless in circumstances which clearly justify the concession, no School will be reckoned excellent, however good the teaching in the lower classes may be, in which a considerable proportion of the pupils do not remain on till the stage of the Merit Certificate, and show satisfactory attainments in the examination.

The Inspector will, as a rule, give notice of this visit, which will be for the purpose primarily of inquiring into the condition of the leaving class or classes of the School, of examining for Merit Certificates, and in specific subjects, and of examining in part the work of the pupil teachers. But this visit will not necessarily be made in what has hitherto been the inspection month. It may take place in any month, though the Inspector will, so far as a proper distribution of his work will permit, endeavour to arrange that it should be made in the latter half of the working School year, as that has been defined in the preceding section. He may at this visit invite the attendance of School Managers for the purpose of conferring with and advising them on the work of the School. Supplementary examinations for Merit Certificates will be held towards the close of the session in connection with certain Secondary Schools or Departments, for the purpose of affording to pupils who are about to enter those institutions, and who have not yet obtained Merit Certificates, an opportunity of qualifying themselves. Their Lordships will regard the possession of this Certificate as a test of fitness for entering upon the work of Secondary Institutions.

(b) *Inspection.*—At the visit already specified as well as at any other which an Inspector, or a sub-Inspector acting under his direction, may make, the whole scope of the work of the School may be made the subject of investigation. The following points, in particular, may be inquired into:—(1) The nature of the attendance:—whether regular or irregular, and whether all possible steps are taken to promote regularity of attendance. (2) The nature of the curriculum:—whether on the one hand it provides a proper variety of mental exercise, or whether on the other hand too many subjects have been taken up (considering the circumstances and the staff of the School),

thereby endangering the efficiency of the work in the fundamental subjects. (3) The nature of the classification :—whether the final goal of School work is reached by proper gradations. (4) He will observe the methods employed in teaching, and the manner in which the ordinary routine of School work is conducted. (5) He will examine the record of work in selected classes, and in connection therewith the exercise books of the children. (6) Lastly he will hold such examination of any of the classes as may be necessary to determine whether the teaching on the lines professed has been really effective. Any such examination will be based strictly upon the record of work done up to the time of his visit. The arrangement of the work should have provided for frequent revision of past lessons, so that considerable familiarity with the field of examination should already have been secured ; on the other hand, the Inspector will be careful not to demand the standard of proficiency which has hitherto been looked for at a set examination specially prepared for. In the selection of classes and subjects to be tested and in the extent to which the examination may be carried, the Inspector will be guided largely by his previous knowledge of the School, and by the indications of the merit or demerit of the work which he may have obtained in other ways. Where marked weakness is shown in the classes or subjects tested this examination may extend to all the classes of the School. Any defects in the distribution of the work, the classification, the methods and the effectiveness of the teaching, which may have been observed by an Inspector or his assistant at one visit will be carefully inquired into at subsequent visits, and any failure to remedy defects will be specially noted.

In view of the present method of paying grants, scrupulously exact registration is a matter of the first importance, and the Inspector will be careful to report any deviations which he may discover at any of his visits from the regulations which Their Lordships have found it necessary to lay down.

The financial year of a school as distinct from the working year will remain as hitherto. At the end of the financial year the Managers will make the usual return, which they will forward to the Inspector of the district. The Inspector will forward it along with a report on the work of the school, and his recommendations as to the rate of grant to be allowed, for Their Lordships' consideration. This report will express the opinion as to the work of the School arrived at as a result of all the visits made during the year and will take into account the results both of examination and inspection. In determining the rate of award for classes above Standard III., the opinion he may form from an examination of the state of the leaving class or classes of the School will naturally be the most important element ; the state of the classes under Standard III. will be judged of by inspection, including such examination as has been described under the head of inspection.

The changes in School organisation and methods of inspection which Their Lordships have sought to establish by the operative modifications of the Code of the present year are all in the direction of giving greater freedom and greater power of initiative to Managers and Teachers. From the success which has attended previous removals of restrictions in the Code Their Lordships are encouraged to hope that the liberty thus accorded will not be abused, and that the present changes will result in an increased and prolonged attendance, greater heartiness and interest in the work on the part of the children, and generally enhanced efficiency in the Schools. But the effects of the change will be closely watched, and the reports as to its working will be carefully considered, and should the results of such observation be unfavourable Their Lordships may be under the necessity of having recourse once more to a larger measure of individual examination in all classes.

I have, etc.,
H. CRAIK.

APPENDIX.

MINUTE and ARTICLES of the CODE referred to in the foregoing Circular.

MINUTE of the COMMITTEE OF COUNCIL ON EDUCATION IN SCOTLAND, dated 16th May 1898, amending the terms of Article 117 of the CODE of 1898.

At Dover House, Whitehall, the 16th day of May 1898.

BY THE LORDS OF THE COMMITTEE OF HER MAJESTY'S MOST HONOURABLE PRIVY COUNCIL ON EDUCATION IN SCOTLAND,

Read :—

Chapter I., Part III. of the Code for 1898.

Resolved :—

That after Article 117 the following proviso should be added :—" Notwithstanding anything contained in Articles 113 to 117, an Inspector shall not be required to examine children for the purpose of granting Certificates of Proficiency under any Labour Act, and of ability to read and write, and of a knowledge of elementary arithmetic under the Education Acts, 1872 to 1883, on the occasion of his visit to a school for the purpose of reporting on it (Article 10) *provided* that he is satisfied that reasonable provision of opportunity for obtaining these certificates can be made in a given district by means of the special examinations referred to in Article 115."

Article 29 of the Code of 1898 :—

29. A certificate of merit will be granted once only by the Department to any Scholar over 12 years of age who satisfies the inspector that he has attained a standard of thorough efficiency in the three elementary subjects (Article 28) as well as in the class subjects (at least two) professed in the school.

The managers will furnish a list (on a schedule supplied by the Department on special application by the managers) of the scholars to be presented for merit certificates, and the teacher must certify to the character and conduct of each pupil admitted to the examination.

The merit certificate will attest thorough efficiency in the three elementary subjects, and will state the class subjects and the specific subjects (if any) taken by the scholar to whom it is granted. No merit certificate will be issued to a scholar who has not mastered all the standards set forth in Article 28, or who does not show ease and fluency in reading, considerable facility in writing and composition, and the power of applying the rules of arithmetic in a way likely to prove useful in the common affairs of life. Some test of mental arithmetic will also be applied.

Article 10 (b) of the Code of 1898 :—

10. (b). The inspector's annual visit to a school may be omitted if he has paid to such school not less than two visits without notice.

Article 17 (h) of the Code of 1898 :—

17. Before any grant is made to a school (Article 4) the Department must be satisfied that—

* * * * *

(h) A record of work done in each class and subject is kept in such detail as shall show the previous course of instruction at any visit without notice.

[*Note.*—This circular was followed by a considerable reconstruction of the Code in 1899. Some parts of the Circular have been rendered obsolete by the passing of the Education (Scotland) Act 1901, which also necessitated a reconstruction of Article 21 of the Code. Otherwise the Code has remained unaltered as regards *essentials* since 1899.]

Circular 279,
Scotch Education Department,
3rd February, 1900.

(Circular to School Boards and School Managers.)

SIR,

I am directed by Lord Balfour of Burleigh to bring under the attention of School Boards and Managers of Schools a subject which is one of great public importance, and which in his Lordship's opinion concerns not less the interests of the pupils of State-aided schools than the welfare and security of the Empire. It is that of physical exercise, and particularly of those forms of military drill which most effectively develop the physical capacities of the pupils, and train them in the habit of the combined and dexterous employment of these capacities.

Lord Balfour is convinced that such exercises, apart from any other consideration, would be a most important aid in attaining some substantial objects at which all education must aim. Not only do they tend to improve manual dexterity and to render more alert the faculties of observation, but they are also pre-eminently useful in developing those habits of comradeship, of responsibility, and of individual resource, which are of supreme importance, not only to the nation as a whole, but to the individual pupil. Indirectly they bring the individual into contact with the principles which lie at the foundation of national defence, and they bring home to him his duties and responsibilities as a citizen of the Empire, while at the same time giving him an opportunity of strengthening and developing his physical powers, and rendering him more fit for his ordinary employment. Whatever form the military service of our country may hereafter assume, it is evident that the strength and security of the Empire as a whole, as well as that of every individual citizen, must depend upon the extent to which the moral elements of responsibility, duty, and readiness of judgment, along with the physical capacities, may be developed. Success in this can only be achieved by careful consideration of the best methods, and by employing these strenuously and zealously during school life. Attention to physical training becomes all the more urgent owing to the tendency of population to gather to the larger towns, where the opportunities for physical exercises are necessarily restricted.

Lord Balfour does not desire to make suggestions, and still less to give directions, with regard to the methods to be pursued. He thinks that it is of great importance that these should be studied and put in force by the Managers of individual schools, to whose judgment they must be left, and upon whose spontaneous action their success must largely depend. It would, he thinks, be better that this should be done without direct interference by any military authority, as such intervention might tend to give a false conception of the object to be attained. But doubtless the school authorities will be ready to avail themselves of those methods which careful study and experience have evolved, and to exact from those employed in giving such instruction a recognised and adequate standard of fitness for the work.

But the main object will best be attained by the action of School Managers in combination with Local Associations, which he trusts may be formed in different centres by leading and public-spirited inhabitants. Such Associations might greatly contribute to the work; and in particular, apart from the immediate work of the school, they might aid in providing the most simple and essential elements of military drill, and in the formation of Cadet Corps for those who have just left school. The formation of such corps would not only encourage the pursuit of a healthy and useful physical training, but would be an effective means of promoting intercourse and sympathy between different classes, and of influencing young men for good at an important crisis in their lives. In seaboard parishes it may well be judged expedient to develop specially that nautical training for which their situation gives opportunities, and in which the boys in these localities most readily find an interest, and acquire skill and dexterity.

As you are aware, under the new Code, grants are not based on the number of subjects taught, and an additional subject does not imply an additional grant. The grant (the amount of which in proportion to local effort must be based upon general considerations) is paid upon the general efficiency of the school, and that efficiency is tested by the adequacy of the training it supplies. Lord Balfour is of opinion that the thoroughness of the physical training must form a very important element in that test. He will direct the particular attention of the Inspectors of Schools to this subject; and it will probably be felt that fitness to judge of it ought to form an important qualification in those who aspire in future to fill such posts, and will not be found to be incompatible with the highest efficiency in other respects.

Lord Balfour directs me to say that he communicates with you now, in the hope of engaging interest and attention in the work, and of stimulating the formation of Associations of the kind he has indicated. If any means can be suggested in which he can give further aid, he will be glad to do so, to the utmost of his power.

I have, etc.,

H. CRAIK.

Youthful Offenders Act, 1901.

Circular 347

(Circular to School Boards).

Scotch Education Department.

31st January, 1902.

SIR,

I am directed to forward to you copy of a Circular which has been issued by the Secretary for Scotland in connection with the Youthful Offenders Act, 1901, and to call your attention specially to the last portion of it referring to Section 13 of the above-mentioned Act, a copy of which is printed below.*

My Lords have already in Their Circular of 10th October last, No. 327, referred to the assistance that may be obtained by School Boards from Police Authorities in carrying out their duties under the compulsory clauses of the Education Acts. Lord Balfour of Burleigh now desires to call attention to the valuable help which may, on the other hand, be given by School Boards to the Police by supplying them with information. My Lords hope that this information will be furnished not only when specially required for the working of Section 13 of the Act in question, but generally for the purpose of controlling and supervising the class of children from whom the greater number of youthful offenders proceed.

In regard to the action which should be taken by School Boards on receiving copies of entries in the Register of youthful offenders, as directed in Section 13 (3) of the Act, it is for the Board to consider on each occasion the

*Youthful Offenders Act, 1901, Section 13.

"(1) In Scotland, in addition to any other register required by law, a separate register of convicted youthful offenders shall be kept for every summary court by the chief constable or other person charged with the duty of keeping registers of convictions."

"(2) This register shall apply to offenders of such age, and shall include such particulars as may be directed by the Secretary for Scotland."

"(3) It shall be the duty of the keeper of the register, within three days after each conviction of an offender under fourteen years of age recorded therein, to transmit a copy of the entry relating to the offender to the clerk of the school board for the burgh or parish in which the offender resides."

precise steps that seem to be called for, which will vary according to local conditions and the special circumstances of the case. It may here, however, be pointed out that the matter will be one for the special consideration of the Attendance Committee in connection with the carrying out of the Education (Scotland) Act, 1901. If the offender is one who has been exempted from school attendance the fact should be noted on the register of exempted children which is required to be kept under Section 3 of that Act, and it will be the duty of the Board or Committee to consider, when the matter comes before them, in the first place, whether the exemption granted to the offender in question should be withdrawn; and, secondly, as regards the general rules by which they are guided in granting exemptions, whether the case offers any special features which might modify their practice in future.

There is, however, a wider aspect of the case which may usefully engage the attention of School Boards and Managers in connection with such returns of offences. Notwithstanding the prominence given in the Code (Article 19. A.2) to the matter of discipline and the inculcation of habits of self-respect and respect for others, there is too much reason to fear that the school is often looked upon merely as a place for imparting a certain amount of instruction in various subjects, while its importance as a place for the formation of good habits and the instilling of right principles of conduct is only superficially regarded. Of these two ends of school work, in so far as they can be differentiated, the second should rightly be regarded as the more important, and it cannot be too clearly realised that the discipline of the schoolroom has largely failed of its effect if it is not reflected in the bearing and conduct of the pupils outside of the school precincts, while it is not unreasonable to expect that it should have an appreciable influence on them even after they have left school. It is impossible to overlook the fact that the large numbers of convictions of juveniles for police offences as shown by the statistics of recent years is a reproach to the school system of the country, and no effort must be spared to reduce the number of these offences as well as to keep in check the disposition to rudeness and lawlessness which stops short of the commission of offences which are taken notice of by the Courts.

It may be that in the past the large numbers of children who through the operation of the existing laws obtained exemption from school attendance at an early age afford some explanation of this failure of school discipline to affect the conduct of children apparently of school age. But the Education (Scotland) Act of 1901 greatly extends the powers of School Boards in the matter of school attendance and enables them, where they think fit, to require attendance till the age of fourteen. School Boards in granting exemption before that age should consider with care the circumstances of each case, and the consequences as to conduct which may follow, and must accept full responsibility for their actions.

It is evident therefore that the Act of 1901 makes it incumbent upon School Boards to scrutinise most carefully the return of offences under the Youthful Offenders Act, particularly as regards those committed by children under the age of fourteen. The manner of dealing with offenders under fourteen who have been exempted from school attendance has already been referred to; it is no less important that cases of offences committed by children still in attendance at school should be carefully investigated with a view to determining whether they are traceable in any degree to laxity of school discipline, or to too restricted a view of the influence which the tone of a school ought to exert upon the general conduct of its pupils. Especially will this be the case when offences are repeatedly traced to the same school; and it may even be the duty of the Department in extreme cases of this sort, when brought to their knowledge, to reduce or suspend the grant to the school.

At the same time my Lords are not forgetful of the fact that schools vary greatly in the circumstances of the children attending them, and that other influences sufficient to counteract and nullify the influence of the school may

be the occasioning cause of the abnormal number of offences set against the pupils of a particular school. It will, nevertheless, be the duty of the school authorities in such cases to consider carefully and anxiously how the influence of the school may be strengthened, and, in conjunction with other local authorities, what agencies may be brought to bear to ameliorate the surrounding circumstances.

While school authorities have a more direct responsibility for the general conduct of pupils of school age, the statistics of offences committed by juveniles over fourteen years of age should not be overlooked. Due allowance being made for modifying circumstances, these statistics may be regarded in a measure as an index of the permanent effects of school discipline, and a consideration of its details may serve to confirm or modify conclusions otherwise arrived at as to the influence of particular schools.

I have, etc.,

H. CRAIK.

Circular 374.

(To School Boards and School Managers.)

Suggestions for Supplementary Courses
in Day Schools.

Scotch Education Department,
16th February, 1903.

SIR,

1. As stated in paragraph 6 of Circular 358, Their Lordships have had under consideration the question of what is the most suitable curriculum of study to be followed in the interval between obtaining the Merit Certificate and leaving school, by those pupils who may be expected to be withdrawn at the minimum age allowed in normal circumstances by the Education (Scotland) Act, 1901. The general question.

2. It is so important that the knowledge of elementary subjects acquired at school should be intelligent, thorough, and, above all, permanent in character, that, were no other course possible, the period of school life under discussion would be usefully employed even if it were devoted solely to revising the work already gone over in preparation for the Merit Certificate Examination. It is scarcely doubtful, however, that such mere revisal work would be irksome to teacher and pupil alike, and the consequent loss of interest and absence of stimulus might well result in defeating the object aimed at. Apart from this possible result, it is certain that were the scope of the work restricted in this manner the additional years of school life now gained would not be turned to the best advantage.

3. On the other hand, while there is no doubt a certain disciplinary value in the study of even the rudiments of certain distinctively secondary subjects, as, *e.g.*, a language (ancient or modern), or geometry deductively treated, such subjects imply a new departure for which there has been little, if any, preparation in the previous studies of the pupil, and they demand, to be effectively studied for any practical purpose, much more time than can possibly be given to them by children who are to leave school at the age of 14. These subjects, therefore, cannot be made a necessary element of the curriculum. Nor should the curriculum which such pupils are to follow during the concluding portion of their time at school be dictated by the special requirements of a few exceptional pupils. The educational interests of the different sets of pupils should be provided for, but this should be done, wherever possible, in separate schools. My Lords are of opinion, from a careful consideration of the facts, that the tendency—not confined to any one class of school—to make one and the same school with one and the same staff serve many different functions is the weak point of educational organisation in Scotland as compared

with that of other countries, with which, in other respects, Scotland might justly challenge comparison, and They are satisfied that increasing division of function as between different types of schools is an essential condition of further educational progress. This division of function, as will be apparent from what follows, does not necessarily imply a distinction of higher and lower, but simply a difference of aim and purpose with a corresponding difference in the subjects of instruction. They would accordingly urge, in the case under consideration, that the exceptional pupils for whom instruction in secondary subjects (in languages particularly) is desired, should, wherever possible, be transferred at a sufficiently early age (say before 12 years of age) to schools, whether schools under the Code or Secondary Schools, in which these subjects form the staple of the curriculum. Such transference should nearly always be possible in towns and populous districts, and it is clearly to the advantage of both sets of pupils—those for whom instruction in secondary subjects is desired and those for whom it is not—that the transference should be made. But They recognise that there are many cases, particularly in rural districts, where such transference is difficult or impossible, and They have no desire to limit the freedom of instruction in such cases, provided always that the real interests of the majority of the pupils are not sacrificed to the special requirements of one or two.

4. The case, then, to be specially considered is that of those pupils who having reached a certain well defined stage of general education, will not enter upon the study of the specifically secondary subjects. Obviously the curriculum of study for such pupils in the remaining portion of their school life must be in the main a continuation and development of their previous studies. My Lords have already expressed the opinion that no mere repetition of previous work will in itself be sufficient; but They are equally of opinion that it is possible to give a fresh interest to the previous studies of the pupils, and at the same time to enhance their value, by putting in the forefront, at this stage, their bearing upon the probable practical requirements of the pupils' after-school life. What these requirements may be cannot, of course, be specifically determined in each particular case, but it will probably be found that sufficient definition will be given to the pupils' studies if the requirements of certain well defined groups of occupations are kept in view.

5. Guided by these considerations the following differentiated lines of work are suggested :—

- Preparation for commercial pursuits. (Commercial Course.)
- Preparation for manual occupations and trades. (Industrial Course.)
- Preparation for rural life. (Course for Rural Schools.)
- For girls—Preparation for domestic duties. (Household Management Course.)

Suggestions as to the kinds of work suitable for each of these courses will be found in the Appendix. As the object of the courses is mainly to give a certain definition and sense of reality to the ordinary work of an Elementary School, those now suggested will probably be found sufficient for the purpose. But my Lords will be prepared to give consideration to proposals for special courses which—being sufficiently general in character—are deemed to be better suited to particular circumstances, or for any modification of those now suggested.

6. But School work has for its end and aim objects more important than preparation in the narrow sense for any particular occupation. It should aim at producing the useful citizen, imbued with a sense of responsibility and of obligation towards the society in which he lives. It should render him—so far as the school can do so—fit in body and alert in mind, and should prepare him for the rational enjoyment of his leisure time, as well as fit him for earning his living. These are ideals, no doubt; but they are ideals towards which the school should constantly strive. It follows that instruction in certain matters of general import should in all cases be combined with, and should even take

social
courses
suggested.

instruction
common to
courses.

precedence of, the instruction special to each of the courses of the preceding paragraph. An outline of the subject matter of this more general instruction is given under the following heads :—

(A.) A study of English.

The main object of this study should be, if possible, to create a taste for good literature. What is wanted for this purpose is chiefly proper direction as to the choice of books for home reading, and an efficient system of reviewing, explaining and testing in school the work so done at home. The committing to memory after sufficient explanation, of suitable pieces of verse and prose should be a regularly recurring exercise. No time should be wasted on mere routine reading aloud in class, nor should much labour be spent upon the subtleties of grammatical analysis. The books for home reading should *not* be chosen from the literature of the day, nor, on the other hand, should they be too remote in language and sentiment to be easily comprehended by the pupils.

This study should include the systematic teaching of English Composition. It is to be presumed that at this stage the pupils have a fair acquaintance with the elementary principles of sentence formation, and attention should now be directed to enabling them to express a given sequence of ideas clearly, logically, and with a due regard to the proportion of the several parts of the composition. For this purpose it is not sufficient merely to give a pupil a subject, and then leave him to his own devices. The effort of composition is considerable in itself, and the pupil should not be distracted at the outset by the additional difficulty of finding material. To begin with, therefore, the subject to be written about should be discussed with the pupils, the several heads of the composition should be selected, and the question of the best order of treatment fully considered. Only gradually should these various helps be withdrawn and the pupil be left, first to make his own arrangement of given heads, and finally to find his own material for composition. For this latter purpose full use should be made of the books prescribed for home reading.

(B.) Certain general studies bearing upon matters which it concerns the pupils to know in after life, whatever the occupation followed may be. Under this head may be specified :

(a.) The proper care of the body, the value of exercise and of pure air, the proper selection of food, the means of preventing the spread of disease and various other matters such as might be treated in a slightly extended Ambulance course. Much of the instruction given under this head will necessarily be empirical, but it should, where possible, be referred to first principles, and the teacher should be careful to keep himself as far as possible abreast of the knowledge of the day in such matters.

(b.) Such information as to the institutions of government under which we live, the conditions of trade and employment, the history and growth of the Empire, the colonies, and the openings for enterprise which they afford, as will help to make intelligent and patriotic citizens. It is to be expected that in all cases the pupils should at all events have a direct knowledge of their own neighbourhood, of the historical monuments there to be found, and of the machinery of local government in their own parish, town, or county.

It is understood that the pupils at this stage will continue to take part, as a rule, in certain exercises common to the school. It may also be found possible to continue certain studies begun at an earlier stage, such as Nature Study, and Drawing, but it is of the essence of the proposals now made that there should be at this stage of school life a certain amount of concentration upon the more important subjects of the curriculum. It is consequently not imperative that the whole range of instruction suggested under Head B should be provided for in all cases.

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7. With regard to the special instruction to be given in the several supplementary courses, my Lords do not expect, nor do They at all desire, that such instruction should attempt to take the place of that kind of knowledge which can only come from the daily practice of some particular occupation. But this instruction, rightly given, should make that practice more intelligent, and should remove certain difficulties from the way of the learner. It should be sufficiently general in scope to make it profitable even for those who for one reason or another will not follow in after life the particular group of occupations which has been kept mainly in view.

8. The outlines of instruction given in the Appendix are not intended to be exhaustive, nor are they intended to limit the discretion of managers and teachers in proposing courses of study which they may deem better suited to their special circumstances. At a later stage, as experience is acquired, it may be possible to make these suggestions more definite. But a reference to the Appendix will show that the kind of study there indicated, combined with that already described under heads (A) and (B) is likely to afford ample employment for the best energies of the pupils for the remainder of their school career. It will scarcely be contended that it is likely to be lacking in interest or in practical value, or that it makes insufficient provision for a thorough grounding in the essential subjects of an elementary education. Further, it may reasonably be hoped that the matter of instruction included in the various courses, if properly handled, may be made the occasion of a mental discipline not inferior to that which might be obtained from the early stages of secondary subjects.

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9. It is obvious that great differences will exist, particularly between town and country schools, as regards facilities for the formation of courses such as those now suggested. In considering the problem of these courses, my Lords have had constantly in mind the position of the small rural school taught by one teacher. In such circumstances class teaching of the small number of pupils who have reached the Merit Certificate stage is clearly out of the question. But my Lords are scarcely disposed to regard this as being, in certain respects, any real disadvantage. It has been frequently noted as one of the defects of the large town school, with its minute sub-division of classes, that the pupil is left little leisure to think for himself, and that the habit of depending upon the instructions and explanations of the ever present teacher is apt to become ingrained. On the other hand, it is the opinion of not a few experienced observers, that the country lad, as compared with his contemporary in a town school, shows towards the close of his school career greater intellectual resources, and that this is due, not so much to inherent mental ability or to any superiority in the teaching, as to the fact that—the aid of the teacher not being always available—he has been forced by circumstances to think for himself. Be this as it may, it is clearly desirable, in the case of a pupil who is to be more or less his own master at fourteen years of age, that there should be in school a period of preparation for this state of semi-independence, during which transition period he shall be regarded not as a pupil of a class, but as a student studying, under direction, certain subjects for ends which he himself in some degree realises and desires.

10. Not merely should self-reliance in study be fostered, but a sense of responsibility should be inculcated, by giving him at this stage some authority as regards conduct in the playground, and the minor matters of discipline, as well as a position of honour in exercises common to the school, such as drill. The boy at this stage tends to acquire a sort of authority among his school-mates, and it is most important that this natural influence should be enlisted on the side of law and order, rather than that it should be driven, as it easily may be, into opposition. There seems to be no reason why it should not be turned to account in primary schools, as it frequently is in secondary schools, as an instrument in the development of character, and in the fostering of a healthy *esprit d'école*.

11. On this view of the method of study proper to supplementary courses, Application much of the difficulty which might seem to attend the formation of such to small courses in rural schools, disappears. Certain parts of instruction—as *e.g.*, in rural school the subjects enumerated under head (B)—will be given to the pupils of the supplementary course along with the senior classes of the school; for the rest, the study of these pupils will be, as it ought to be, largely individual. In this connection, it is most important to observe that the pupil will be, for the most part, concerned with the application in fresh directions of studies in which he has already received some grounding. What he needs, therefore, is not so much continuous instruction as direction, guidance, and explanation, as occasion may require, and opportunity may offer. The case would be largely different were the pupil to break entirely new ground, as he would do, for instance, in the study of a language. There should, accordingly, be no difficulty in a rural school, with a small number of pupils in the supplementary course, in providing, where necessary, for several distinct lines of study for individual pupils. At the same time, the advantage arising from the stimulus of a common study and of the interchange of ideas regarding it among the pupils themselves should not be overlooked.

12. With any increase in the number of pupils taking a supplementary course, and the consequent probability that the staff of the school will be sufficient to admit of the headmaster or other teacher giving a certain amount of systematic instruction to those pupils, the argument for a common course becomes stronger. It is with this possibility in view that the suggestions for a course for rural schools have been drawn up. But it is, of course, also possible that in certain circumstances it may be preferable to follow one of the other courses outlined, *e.g.*, the Industrial Course. The girls in such schools must to a certain extent follow the same course as the boys,—as they may indeed do with advantage,—but they should receive special instruction in Needlework and Cutting-out; and it is much to be desired that County Councils or Secondary Education Committees acting for them, should employ well qualified teachers of Cookery and Laundry Work—possibly also of Needlework and other branches of Household Management—to give some instruction in these subjects, taking the schools of a given district in rotation.

13. In connection with the supplementary courses in rural schools, my Lords think it specially important to point out that these courses may be expected to serve many, if not most, of the purposes of classes under the Continuation Class Code. The formation of classes in districts with a scattered population is found for various reasons, *e.g.*, the distances to be traversed on moonless nights, the necessities of autumn and spring field operations, etc., to be a matter of considerable difficulty. Not merely do the supplementary courses offer an opportunity for more continuous, more prolonged, and better organised study in a special direction for pupils under fourteen years of age, but the method of study being such as is described above, my Lords would hope to see a revival of the laudable custom formerly prevalent in many of the rural districts of Scotland, whereby youths long past school age were in the habit of returning to school at certain seasons of the year, not to receive instruction in class, but to pursue their own individual studies under the direction and with the occasional aid of a master. My Lords trust that this suggestion will receive the attention of School Boards and Managers, and that they will give careful consideration, not only to the means of providing opportunities for such study, but also to the best ways of securing that these opportunities shall be prized and sought for by the young people of the district.

14. In towns the opportunities for systematic instruction will naturally be much greater, and it may be expected that, as a rule, one and the same course (whether one of those given in the Appendix, or some approved modification thereof) will be followed by the whole body of pupils under the charge of the same teacher or staff of teachers. It is obviously in the interests neither of

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economy nor of efficiency that each of (say) three schools serving approximately the same district should endeavour to provide within itself a triplicate course, *e.g.*, a Commercial, an Industrial, and a Household Management Course when, by a proper organisation and sub-division of labour, each separate course might be assigned to a separate school. For this, as well as for other reasons, it is desirable that the various elementary schools of a given town area under the same management should be regarded, not as separate entities, but as parts of the same organisation, thus permitting a free interchange of pupils at the stage at which the special studies of the supplementary courses are entered upon. My Lords will accordingly expect that, wherever circumstances permit such a grouping of schools, there shall be no unnecessary duplication of courses.

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15. But, whether in town or in country, whatever the opportunities for collective instruction may be, the distinguishing note of the work of the pupils in the supplementary courses should be individual study directed to practical ends. So far as the acquisition of knowledge is concerned, the object should be, not so much to impart information to the pupil as to exercise him in obtaining for himself from sources within his reach, and setting out, in an orderly manner, all necessary facts relative to a given topic. Great use may be made of the daily newspaper as a starting point of such investigations. For instance, having made an analysis of the shipping returns for a given port the pupil may ascertain the general character of its trade; look up in an atlas the various places mentioned in the shipping list; make note of their relative position and distance; gather from school geography, gazetteer, or encyclopædia certain information as to the more important of them; and finally set forth the information obtained in a well digested and orderly form. He may proceed to make a similar investigation for another port, and institute a comparison; or he may be referred to the sources of accurate information as to the total exports and imports of a place and be asked to make an analysis of these over a series of years. Similarly, historical allusions in the leading article, or elsewhere, in the newspaper may be made the occasion for reference to such sources of information as are to be found in the school library, and for a certain amount of collateral reading of authorities, the results of which should be embodied in *précis* form. All this is not matter for formal and regularly recurring lessons in geography or history, but for individual investigation extending over, it may be, several days. The newspaper will also be useful in other ways. Its various articles will afford material for exercise in *précis* writing; difficulties of vocabulary will give occasion for frequent and useful reference to the dictionary; above all, perhaps, the market reports will furnish a body of material for exercises in calculation much superior to the cut and dried examples designed to illustrate the rules of a text-book, while their perusal may be made the occasion of acquiring much incidental information of practical value. It is by means such as these that a sense of actuality may be given to the work and a spirit of initiative cultivated in the pupils. But the examples given are not intended as directions to be implicitly followed; it is much more important that individual teachers should exercise their ingenuity in devising for themselves the best means they can for achieving the essential objects aimed at.

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16. The exercises in the preceding paragraph presuppose that every school with a supplementary course will be equipped with a proper set of reference books, *e.g.*, a standard dictionary (etymological), a reference atlas with index, various historical books, including a handbook of European history, a biographical dictionary, a dictionary of dates, and one or more of the comprehensive year-books now issued by various publishers.

It is also highly desirable that such schools should possess a small lending library of carefully selected books of literature.

17. It is Their Lordships' intention that supplementary courses of the Proposed kind indicated in this circular should be eligible for grant under Article 21 alteration of the Code, and any changes in the Code which this may render necessary, the Code will be proposed for the approval of Parliament.

18. They have also in view the necessity—in consequence of the altered conditions of School attendances—of making certain changes in the regulations for the Merit Certificate. Under present regulations it can no longer be regarded as being, properly speaking, the Leaving Certificate of the Elementary School.

It will be preceded by a qualifying examination designed to secure that a pupil entering upon the special courses dealt with in this Circular (or passing into a higher grade department) shall have reached a sufficient stage of advancement in the general range of studies of the Elementary School.*

The Merit Certificate granted on leaving school shall take account of work done in the supplementary courses. It will state that the holder, after passing the qualifying examination at a certain date, has pursued a certain course of work corresponding to one of those indicated in the present Circular, and will specify the value put upon his attainments in the several subjects of the course so far as these admit of specific mention.

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H. CRAIK.

[Memorandum issued with Circular.]

Circular 374.

Copies are enclosed for the use of the Members of the School Board or Managers, and for circulation among the staff of each school. One copy must be filed in the portfolio of each school.

Additional copies will be supplied on application.

Scotch Education Department,

16th February, 1903.

APPENDIX.

SUGGESTIONS FOR SPECIALISED INSTRUCTION IN THE SEVERAL COURSES REFERRED TO IN THE CIRCULAR.

In making these suggestions, my Lords desire it to be clearly understood that the aim has been to indicate certain *possibilities* of each line of study for the benefit of those pupils who may continue in attendance at a Supplementary Course after fourteen years of age, or who may return to school for special study in the winter, in the manner suggested in Paragraph 13 of the Circular; it is neither expected nor desired that any attempt should be made to cover the whole programme suggested for each Course before the age of fourteen. This applies more particularly to the programme suggested for the Industrial Course. In that Course it would be unreasonable to expect that more than a small portion of the work suggested should be overtaken before the age of fourteen; but it is most important that what is done should be on lines which may be followed out without any essential change in method, when attendance at the more advanced Continuation Classes comes to be substituted for attendance at the day school.

N.B.—It is understood that the instruction described under heads (A) and (B) of the Circular will be given in *all* Courses.

* On this examination no certificate will be awarded.

Commercial Course.—(1.) The main object of the Commercial Course will be as complete an understanding as possible of the principles of Arithmetic and expertness in making calculations. But the understanding and expertness will be acquired through familiarity in dealing with concrete cases, such as actually occur in business transactions. Every possible method of arriving at a result should be considered, and the reasons for the superiority of certain methods fully discussed. Even such exercises as the construction and use of a ready reckoner should not be disdained. In this course the pupils should be made thoroughly familiar with the calculation of sums in decimal money, and should be accustomed, even in dealing with sums in British money, to express shillings and pence directly and automatically in the form of decimals of a pound. Even if no practical purpose is served thereby in the immediate future, it nevertheless remains true that such exercises form one of the best and most convenient means of acquiring a mastery of decimal notation.

(2.) The principles, and some of the more ordinary devices, of Book-keeping should be explained and illustrated by the keeping of accounts in very simple form.

(3.) The purpose and proper form of the more common commercial documents, such as invoices, accounts, receipts, cheques, etc., should be explained.

(4.) There should be systematic exercises in Handwriting, designed to secure speed, while preserving legibility and correctness of form. It is matter of common complaint that the good style of handwriting which my Lords are glad to believe is a very general characteristic of schools under the Code, soon gives way under the stress of office work, and it is probable that this is in some degree owing to the want in school of graduated speed exercises such as those here indicated.

(5.) Shorthand may also be added where time permits, but my Lords do not regard this as any necessary part of the Commercial Course.

Industrial Course.—(1.) The essential object of this course should be to give the pupil such a knowledge of Geometry and Mensuration as can be acquired experimentally by the construction and exact measurement of figures drawn to scale by the use of various instruments, such as compasses, protractors and set-squares. In this way a real understanding of the fundamental propositions of Geometry relating to angles, the various relations of the sides and angles of a triangle, the measurement of rectilinear plane figures, and various properties of the circle and of similar figures, may be acquired, as well as the power of applying this knowledge to actual problems of construction or measurement. The use of graphs to indicate the relation of varying quantities should be taught. It may be found possible to add some elementary instruction as to the measurement of solids. The teacher should not hesitate to adopt devices borrowed from any province whatever of Mathematics, if only they are found to be within the comprehension of the pupil. The distinguishing feature of the course should be that at every stage the pupils deal with concrete problems, and not with developments of mathematical theory. The correct use of mathematical instruments is a matter of prime importance, and exactness of measurement should be insisted upon.

(2.) Incidentally, the course will give considerable scope for the practice of Applied Arithmetic. In addition to the ordinary foot rule, decimally divided scales should be in constant use, in order that, as in the Commercial Course, the pupils may be familiarised with decimal operations, and may acquire a knowledge of the principles of the Metric System.

(3.) The work should include some practice in money calculations, though not to the same extent as in the Commercial Course.

(4.) To this course should be added workshop practice (woodwork and ironwork) in which the pupil, besides being taught the proper use of tools is exercised in the production of objects from working drawings, as well as in the construction of such drawings from actual objects, in simple plan and elevation, or in isometrical projection.

(5.) Some instruction should also be given in the simple principles of Mechanics, and pupils who have reached a sufficient stage of advancement may be introduced to the consideration of such problems as are contained in the elementary text books on Building Construction, or Machine Construction and Drawing.

Course for Rural Schools.—(1.) The special instruction relative to this course should obviously be in matters pertaining to Agriculture and Horticulture. The Nature Study lessons given in the earlier stages of school life should now be so amplified and extended as to be useful afterwards in the work of field or garden. School gardens, such as are now common in America and on the Continent, would prove a most valuable adjunct to the lessons, and the time spent in giving practical instruction therein would, under reasonable restrictions, be reckoned as part of the school course. Much, however, may be done with window boxes and flower pots in the way of experiment and observation on plant reproduction and growth, the influence of various manures in increasing the fertility of a soil, etc. The rocks and soils in the neighbourhood should be carefully studied and their relations established. The suitability of different soils for particular crops might afterwards be considered from the farm practice of the district. The life histories of weeds and insect pests could be worked out and simple remedies against them tested. Wind and insect pollination of plants would also prove a most interesting study, and would naturally lead to observation on bees and bee-keeping at the nearest bee-hives. A few well-illustrated lessons in the rudiments of chemistry would serve to bring home to the pupils the more important facts connected with the nutrition and work of plants, and the relations of air, water and soil, to both vegetable and animal life. This gives a brief outline of the nature of the instruction which may be undertaken, but the intelligent teacher, knowing his ground, will be able to suggest many other lines along which the school time may be advantageously spent. From the observations made, inference as to the farming practice may from time to time be drawn; but it is important that the course should be a training of the observing and reasoning faculties, such as will be of value to the pupil whatever his future occupation may be, and not simply a committing to memory of facts relating to any branch of Natural History or Agriculture.

In any inferences as to farming practice that may be drawn, the teacher should be careful to be guided by the best expert opinion available, and full use should be made, both for purposes of illustration and for drawing inferences as to correct farming practice, of any Experiment Stations conducted in the neighbourhood by the Agricultural College of the District.

(2.) As subsidiary subjects, the following should find a place in the course.
(a) Instruction in Geometry on the lines already indicated for the Technical Course, but leading up to land measuring and simple exercises in surveying.
(b) The study of newspaper market reports and exercises in calculations based upon them.
(c) The keeping of accounts.

Household Management (Girls' Course)—(1.) The special aim of this course should be to give the pupils an intelligent and well-grounded preparatory knowledge of the essential branches of housewifery. The course should comprise a series of carefully co-ordinated lessons in housekeeping (the care of rooms, furnishing, and clothing; marketing and the keeping of household accounts; cookery, laundry work, and needlework, especially mending, darning, and cutting-out). It is important that these various branches should be treated, not as isolated subjects to be taken in separate courses and then dropped, but as parts of a whole conducing to one end.

While this course must, from the nature of it, be mainly practical, yet it may be made a valuable instrument of mental discipline, if care be taken to secure that practice is always intelligently based upon reasoned and well-illustrated theory. By clear explanation, illustrated whenever possible by simple experiments, the pupils should be made to understand and appreciate

the " reason why " of the detailed practical methods taught ; and they should be trained and encouraged to observe, test, note, compare, and infer for themselves.

In Girls' Courses thus treated, some extension would fitly be given to certain of the topics of general education enumerated under head (B) (a). In particular the subject of the proper feeding and care of infants should receive attention.

It would be of much advantage towards thorough efficiency that the above instruction—at least, as regards its general direction—should be in the hands of persons who are not merely expert in various branches of household work, but who combine therewith a good general education, some scientific training, and some insight into the problems of education.

(2.) The following may be specified as subsidiary subjects of this course :
(a) Certain applications of Arithmetic—*e.g.*, expertness in calculating prices, familiarity (acquired by practice) with the common weights and measures and their sub-divisions, and accuracy in estimating quantities generally.
(b) Practice in scale drawing as applied to the making of diagrams for cutting-out. It is possible that in certain cases this may be extended so far as to make at all events, a beginning of such experimental study of Geometry as is indicated for the Industrial Course. (c) Dressmaking and the use and care of the Sewing Machine.

II. INTERMEDIATE EDUCATION.

(Circular to School Boards and School Managers.)

Scotch Education Department.

19th August, 1898.

SIR,

I am directed by Lord Balfour of Burleigh to bring under your notice the following proposals for the recognition of a distinct class of Schools by this Department. His Lordship desires to give ample notice of these proposals, so that school authorities may make their plans accordingly. The detailed conditions, such as are set forth in the Scotch Code for ordinary Schools, will be published hereafter.

For the further encouragement of instruction in Science and Art in combination with a second scheme of general education, a grant will be made on the following conditions to the Managers of Schools which provide a satisfactory course of instruction extending over not less than three years to pupils who have obtained a merit certificate or otherwise satisfy the Department of their capacity to profit by such advanced instruction.

1. The Department must be satisfied that the school possesses a proper equipment for instruction in Science and Art, viz., sufficient Laboratory accommodation, with the necessary apparatus for instruction in Science, suitable drawing tables or desks, and an adequate provision of examples for instruction in Art, and as a rule a workshop or room specially adapted and equipped for instruction in the use of tools.

2. A course of instruction extending over at least three years must be submitted to and approved by the Department, and this course shall make provision for the following :—

(A.) *Experimental Science*.—Not less than four hours a week, of which at least two hours must be spent by each pupil in practical work. The course in Science should proceed from elementary exercises in measuring and weighing, and calculations based thereon, to the experimental investigation of elementary notions of Physics and Chemistry. In rural schools, and in summer, some investigation of plant life and of the elements of Botany should be added. In the third year at least three hours a week of practical work will be expected from each pupil.

(B.) *Drawing*.—At least two hours a week. The course in its earlier stages should embrace instruction in Freehand Drawing, Model Drawing from common objects as well as from geometrical models, and drawing to scale of plan, elevation, and section. It should be followed or accompanied by simple exercises in the elements of design. In the higher stages the course may bifurcate, attention being given principally either, on the one hand, to the development of artistic faculty, or, on the other hand, to the instruction of the pupils in the various forms of Mechanical Drawing which find practical application in the workshop and the drawing office.

(C.) *Mathematics*.—At least four hours a week.

(a.) *Geometry and Mensuration*.—Practical and Theoretical. The course of instruction in Euclid should be preceded or accompanied by exercises in Practical Geometry, and should, where possible, have a practical application, as, *e.g.*, to Mensuration. Mensuration should at the outset be based upon the experimental determination of surfaces and volumes which forms part of the course of experimental science, and may ultimately include exercises in Surveying, involving simple applications of Trigonometry.

(b.) *Higher Arithmetic and Algebra*.—A thorough knowledge of decimals should be acquired, based upon the actual calculations required in the experimental course in Science; the commercial applications

of arithmetic, and in certain cases the arithmetic of artificers, should be studied, and exercises in mental calculations in these branches should be constantly given. Algebra should at the outset be treated as an extension and generalisation of arithmetic.

(D.) *History and English Literature*.—The first two years in the latter subject should be devoted to cultivating a taste for good literature by the reading of interesting works of good style and elevation of sentiment. These should be studied largely at home, and discussed at school. Examinations should be held as to their contents, themes set upon them, difficult passages paraphrased, and choice passages learnt by heart. Parsing and analysis should be treated as subsidiary subjects, and in so far as they are necessary to the full understanding of the language.

The same years should be devoted to a revisal of previous knowledge of History, and to obtaining a clear chronological conspectus of the succession of events in English and Scottish History as an aid to future reading.

In the third year a definite period of History may be studied with special reference to its literature and the general state of civilisation in Europe at the time. Some representative book or books of the period should be studied in detail. At all stages the historical origin of present-day institutions should be kept in view, a spirit of patriotism should be cultivated, and some instruction should be given in the rights and duties of a citizen (controversial topics being avoided).

(E.) *Geography*.—A revisal of previous knowledge; the reading of maps (e.g., of contour lines) and their construction; elementary exercises in surveying and mapping, a thorough regional survey, by means of excursions, of the physical geography, flora, fauna, and historical antiquities of the district in which the school is situated; a study of commercial geography, based largely upon the shipping and trade news of the daily papers.

(F.) *Manual Instruction*.—At least three hours.

Girls.—Needlework and Dressmaking, Cookery.

Boys.—Woodwork, Ironwork, Clay Modelling. In the latter subjects, and in dressmaking for the girls, the pupils will be expected to make a practical application of the drawing taught in the school, and the knowledge acquired in the science lessons can, to some extent, be turned to account for the explanation of the processes in cookery.

(G.) Provision should be made for adequate physical exercise of a systematic character and for instruction in the theory and practice of (vocal) music.

My Lords do not propose to prescribe a minimum time for the instruction in subjects (D) and (E); but They would suggest that from five to six hours a week should be given to the study of History and English Literature and two hours to Geography.

The foregoing subjects, their practical application being kept constantly in view, afford, it is believed, adequate material for the instruction of pupils whose systematic education is to cease at the age of 15 or 16, and my Lords desire to impress upon managers the desirability of securing thorough instruction in a well-defined range of subjects, instead of dissipating effort upon unrelated subjects. But the following are suggested as additional—or, under certain circumstances, alternative—elements of the curriculum. Such additions to the curriculum will be subjected to careful scrutiny before they are sanctioned, and such sanction will be largely based upon the fact of some preparatory instruction in the subject having been given in the junior school.

(H.) *One Modern Language*.—In all cases proof of competent knowledge of the language on the part of the teacher will be demanded, but where the subject is taught by a teacher who possesses conversational

facility in the language, part of the time allotted to other subjects in the preceding sections may, if necessary, be devoted to this subject, particularly in the case of girls. In no case, however, will the experimental treatment of Science be dispensed with.

The object and method of the instruction in Languages must in all cases be practical, and whatever method may be pursued in the beginning the result at the end of the course should be that the pupils are able to read simple narrative in the language at sight, and to understand and reproduce both orally and in writing the substance of a conversation on everyday topics, or a simple description. *Unless there is reasonable probability of these objects being attained the subject should not be attempted.*

(K.) Various subjects of practical instruction having in view the preparation of pupils for their probable future occupations, may properly find a place in the programme of studies. Such subjects are Book-keeping, Shorthand, Typewriting, Laundry work, Housewifery, Dairying, Gardening, etc. Instruction in these subjects should not be given indiscriminately to all pupils, and in no case should it be in substitution for instruction in subjects of a more disciplinary character.

3. Their Lordships must be satisfied that the teachers have a competent knowledge of the subjects which they are to teach—in each subject individually and in the case of Science, that they have had experience in treating the subject experimentally.

4. As a rule not more than forty pupils in a class may be instructed by one teacher at one time, nor more than twenty-five in practical work. Each period of practical instruction shall be of at least one hour and a half in duration.

5. Every such school or department must be under the management of (a) a public statutory authority, (b) governors in terms of any scheme or Provisional Order issued pursuant to an Act of Parliament, (c) private individuals specially approved for this purpose by Their Lordships, who are in a position to undertake the financial responsibility for the work. It must not be conducted with a view to private profit; must be specially approved as required by the educational circumstances of the district; and must be accessible to pupils of all classes who show the requisite attainments.

Their Lordships must be satisfied that there is an adequate contribution from local sources, and for this purpose they will require the production of a balance sheet showing clearly the income and expenditure of the school as a unit, independently of any junior or preparatory school with which it may be connected.

6. When a school satisfies the foregoing requirements it will be placed on a special register, and will be inspected from time to time as Their Lordships shall decide. For the purpose of inspection a record of the work of each class in each subject must be kept, and the examination of pupils will be strictly confined to the profession shown by the record of work, but the Inspector will report whether the work overtaken at any given time is a reasonable fulfilment of the syllabus originally approved, and will submit for Their Lordships' consideration such comments and criticisms upon the organisation of the work as he may think called for.

7. If the foregoing conditions are fulfilled, and if it appears from the report of the Inspector that the school is giving an efficient education of the practical character aimed at, a grant shall be paid to the school at the following rates :

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| (a) For each pupil in average attendance who, having obtained a merit certificate takes the first year's curriculum | £. s. |
| | - - 2 10 |
| (b) For each pupil in average attendance who, having completed the first year's curriculum, proceeds to the second year's curriculum | - - - - 3 10 |
| (c) For each pupil who, having completed a two years' course, continues his studies to a more advanced stage | - - - 5 0 |

The total grant thus arrived at may be increased by one-tenth in cases of exceptional efficiency.

The grant may be reduced by one or more tenths for serious defects of equipment, organisation, discipline, or instruction; or, after due warning, a school for these causes may be removed from the register of schools eligible for this special grant. A school may also be removed from the list if, after due probation, it does not appear that a reasonable proportion of the pupils proceed to a second or third year of study.

In the year 1898-9 a grant at the rate for the first year will be paid on the attendance of all pupils beyond Standard VI., excepting the attendances of those pupils whom the Inspector may report not to have reached such standard of education as makes them capable of profiting by the instruction given. In the following years the condition as to merit certificates will be insisted upon and the higher proportional payment allowed for pupils who take a second or third year curriculum.

Any school, whether previously State-aided or not, may be placed on the list of Higher Grade schools of this class provided it satisfies the preliminary conditions, but in the case of a school previously aided from the Parliamentary grant, the above grants shall be in lieu of all grants which might have been earned under the provisions of the Code on account of the pupils in question excepting always the grant in lieu of fees, which will be allowed on the conditions set forth in Chapter IV. of the Code.

The grants under this Minute are not subject to reduction under Article 32 (a) of the Code.

8. The school year of all such schools shall end on the date immediately preceding the summer vacation, and the work of the year may be conveniently divided into three terms.

An examination for merit certificates will be held in the district in which the school is situated towards the close of the school year, to which pupils who propose to enter the school in the ensuing session, and who have not already obtained merit certificates, shall be admitted.

9. No registration for separate subjects will be required, but the registers must not contain the names of pupils who have not obtained the merit certificate, and the attendances made in each year of instruction must be separately shown.

10. A time-table in conformity with the approved syllabus must be submitted each year. No time-table which shows an undue complication of subjects will be accepted, and the time-table, when approved, must be closely adhered to, any deviations, whether in the case of classes or of individual pupils, being specially recorded. Timely notice must be given to the inspector of the district, and to the science inspector, of any closing of the school or of any considerable departures from the time-table. These conditions, as to time-tables, will be strictly insisted upon as a means, in the absence of the annual fixed examination, of securing that the work of the school is being regularly carried on in accordance with its profession.

11. The leaving certificate examination shall be open to pupils of these schools, but these examinations shall be regarded as personal examinations, and no grant shall be payable on their result, nor shall the success of the school be measured by the number of leaving certificates obtained.

12. Pupils who have taken a third or fourth year's course, and these only, may be presented for a leaving certificate in practical science. The examination for this certificate shall be practical, and be conducted in the laboratory of the several schools. The practical examination may, if thought desirable, be supplemented by a written examination.

13. In addition to the separate science certificate, a complete leaving certificate of a Higher Grade school shall be given to those pupils who have completed a three or four years' curriculum in such schools, and who, in addition to passing the practical examination in Science, shall have obtained leaving certificates (for separate subjects) in such number of other subjects as may

be fairly held to constitute a full curriculum for the school. The subjects, and their number, which are required, in order to obtain a complete leaving certificate of the Higher Grade School, may vary with the school and shall be relative to its approved curriculum.

I have, etc.,

H. CRAIK.

[*Note.*—The proposals of this Circular, as will be seen, were for the establishment of Higher Grade *Science* schools, the fund from which the grant would be paid being derived in large part from the commutation of the Science and Art grants formerly paid to schools under the Code. But, with the consent of the Treasury, these proposals were given a wider scope when they came to be embodied in Chapter IX. of the Code of 1899, and Commercial or other courses were allowed as alternatives to the Science course. By the footnote to Article 138 of the Code of 1903, a course of *general* education may be substituted for the special courses referred to above.]

Circular 234.

Higher Grade (Science) Schools.

(Circular to Managers).

Scotch Education Department,
7th December, 1898.

SIR,

The courses outlined in the appended Syllabuses are submitted as typical of the kind of work in experimental Science which my Lords desire to be undertaken under the Scheme for Higher Grade (Science) Schools. They are also such as in certain circumstances would be accepted under paragraph 3 of the Minute of 15th August in lieu of the Syllabuses of particular subjects in the Science and Art Directory.

Their Lordships desire it to be distinctly understood that the adoption of any of these courses is not imperative. On the contrary, They think it important that They should have before Them for Their future guidance the results of a considerable variety of independent courses. They desire, further, that every teacher who as the result of thought and experience has arrived at clear conclusions as to the course which it is desirable to follow should have every reasonable opportunity for putting his ideas to the test of experience. Where alternative courses are submitted, care should be taken to see that the various exercises follow each other as far as possible in a well defined and logical order, so that in the end the results obtained may be connected in the pupil's mind by a clear process of reasoning, even though the reason for particular steps may not always have been apparent to him at the time.

In the working out, whether of these or of any alternative courses, the following points should be kept in view :—

The object of the course is not primarily the acquisition of a number of facts, but the implanting in the minds of the children of the habit and spirit of accurate investigation—a process which may be made the means of mental discipline of the highest order.

It follows from this that the investigation by each pupil individually, and for himself, of a definite problem in the laboratory, is of the essence of the work, and demonstrations by the teacher must take a secondary place. The work in the laboratory may be *preceded* by such explanation as may serve to make clear to the pupils the nature of the question to be studied and to connect it with their previous knowledge ; it should be *followed* by a comparison of the results obtained, discussion of divergencies, and the bringing out of general conclusions. Demonstration by the teacher may be employed to

confirm these conclusions, or to illustrate their bearing. The business of the teacher will be to guide and direct, to awaken interest and to suggest fresh problems; never simply to tell. That he may adequately discharge this function it will be necessary that he should give much time and thought to the arrangement of his work and to the careful preparation of experiments and problems for the pupils, and the special duty thus laid upon him should be taken into account in apportioning his time of service in the school.

It is clear that for the purpose of orderly teaching the pupils of a class should be engaged at any one time in the investigation of questions of the same general nature, but the problem to be studied may be presented to each pupil, or each set of pupils, in varied forms. It is suggested, for example, that in the exercise which involves the finding of a residue on evaporation of water, one section of the class should evaporate spring-water, another sea water, and a third tap-water; that in finding the weight of one cubic centimetre of water, one section should weigh 100 cubic centimetres of distilled water, another 100 cubic centimetres of tap-water (cold), another 100 cubic centimetres of hot tap-water or hot distilled water, &c. Provided that the results obtained can be used to establish some common principle, the actual investigation assigned to each pupil should be, as far as possible, individual. The practice of associating pupils in pairs for all investigations, though it is not for the present forbidden, is not to be commended.

Of scarcely less importance than the actual observation, is the truthful and clear recording of results. For this purpose it is suggested that each pupil should be provided with a book (preferably with some pages ruled in squares), in which he should keep a continuous dated record of his observations throughout the year. In this book an account of the several investigations conducted by the pupil, and of the results obtained by him individually, should be entered in the laboratory and at the time. In the circumstances, it is not to be expected that this statement of work done should be in any way elaborate, but it should at least be clear and free from slovenliness. It should also be illustrated by neat and careful drawings of a simple nature, where these in any way serve to elucidate the work in hand.

If (say) the right-hand pages of the book be reserved for the statement of work done by each pupil individually, the opposite pages may be devoted to a statement of those more general results which have been arrived at by inference by the class as a whole in conference with the teacher.

Finally, the more important quantitative results, such as relative densities, boiling points, &c., should be tabulated as they are arrived at, towards the end of the book, to serve as an aid and guide in further investigations.

It will be observed that a considerable part of the first year's course is occupied with what may seem very elementary exercises in measurement. It is essential that the pupils should become thoroughly familiar with the units of length, area, and volume, and should acquire skill in the use of the various measuring instruments. But these objects being attained, it is suggested that this part of the course should not be unduly lingered over. It is hoped, indeed, that in time such exercises—which can for the most part be performed in the ordinary class-room—will be included in the work of the higher classes of the elementary school proper, and that pupils entering the Higher Grade Schools may be able to proceed at once to more advanced investigations.

The course when fully followed out should result in the acquisition by the pupils of a considerable knowledge, and that of a sound and permanent nature, of various natural phenomena. Every means should be taken to convince the pupils that the results arrived at are true in the outside world as well as in the laboratory. For this purpose the simplest apparatus consistent with accuracy should be resorted to, and no opportunity should be lost of pointing out the bearing of the results obtained on the industries and occupations of everyday life.

But while this practical object is of great importance, my Lords desire to repeat that the prime object which They have in view in instituting these courses is to render them available as a means of mental discipline. Their Inspectors will accordingly be instructed in investigating the value of the work done, to have regard to its spirit and method, and to the intelligence, power of initiative, and self-reliance shown by the pupils, rather than to the amount of examinable knowledge acquired. They are not without hope that the results obtained will encourage teachers to apply similar methods to other parts of school work to which they may not seem at present so readily applicable.

I have, etc.,

H. CRAIK.

APPENDIX.

HIGHER GRADE (SCIENCE) SCHOOLS.

SYLLABUS OF INSTRUCTION IN EXPERIMENTAL SCIENCE.

First Year's Course.

The first lesson, or part of it, should consist of an effort at classification. Introduction. The pupils should be asked to write out in separate columns lists of substances like stones, like water, like air, and different from any of these. This should precede any instruction on the part of the teacher. A discussion of the obvious differences of air, water, and common solids will follow during this or a subsequent lesson. The terms "solid," "liquid," and "gas" may be here used without any formal definitions being given. The terms "heavy" and "light," "large" and "small," will have been used; and, though there are other properties demanding careful study, it will yet be advisable to seek first for more exact expressions for "weight" and "volume."

The need for a unit of volume, a unit of area, and, as a basis for these, a unit of length, will be evident; and laboratory practice in the use of the yardstick, the metre-stick, the measuring-jar, and the burette will follow. Consideration of the history of the selection of the metre as the unit of length is not advisable, but the relation between the British and the Metric systems should be found out by comparison of the numerical values obtained by measurement of the same length in inches and in centimetres. This would be a favourable opportunity for revising decimals in the arithmetic lessons; and the pupils should learn from practice in its use to appreciate fully the value of a decimal system. Exercises in measurement of lengths, areas, and volumes should not be unduly prolonged; they should cease as soon as the pupils can determine with fair accuracy areas of triangles, quadrilaterals and circles in square centimetres and square inches; of the laboratory tables or class-room walls or floor in square metres and square feet; the volumes of a cube, a square prism, a cone and a cylinder in cubic centimetres and cubic inches; the capacity of a flask in cubic centimetres and of the class room in cubic metres and cubic yards. These measurements are merely a means towards an end, but interest will be added to them and their usefulness increased if they be employed to find out or to verify certain well-known relations. For example, exercises in length measurements may be employed to find out the ratio between the circumference of a circle and its diameter; area measurements to establish some of Euclid's propositions; and volume measurements to discover the relation between the volumes of a cone and a cylinder of the same base and altitude. The volumes of regular solids will be first found by displacement of water; and those obtained by measurement and calculation will be compared with such earlier results; confidence in the former, as a method of obtaining the volume of an irregular solid, will be thus

Measure-
ments of
lengths,
areas,
volumes.

Verification
known pro-
portions.

established. It may be well to remember that the exercises in Geometrical Drawing can be frequently made use of to assist in finding, or to confirm, the results of those now under consideration.

relative
densities.

The use of the balance will follow. It would be unwise to devote any time to the theory of the balance; sufficient explanation to enable the pupils to weigh accurately is all that is necessary. The class, now able to find weight and volume, is ready for the conception of *density*. Relative densities of solids should be found, also the weight of one cubic centimetre of water, the volume of a small flask (by weighing the water it will hold), and then the relative densities of methylated spirit, milk, and sea-water with the help of the flask. It is of the utmost importance to direct the attention of the class to the fact that *all* their results for the weight of one cubic centimetre of water are *less* than those obtained by the best workers under given conditions. If the experiment has been tried in the manner previously suggested, a discussion of the results will point to *warmness* having something to do with the *lowness* of the result. It may be advisable to postpone further inquiries at this stage.

the principle
of Archi-
medes

It is a matter of common experience that things weigh less in water than in air. An inquiry will be set on foot to test the truth of this proposition; the principle of Archimedes will be verified, and applied to the finding of densities, and the results compared with those previously found. The method of securing the most accurate results will be evident, but the value of confirmation by different methods should be pointed out and insisted on wherever possible.

expansion.

the Thermo-
meter.

The study of the density of gases had better be postponed, but it will be advisable at this stage to show that air is in reality *something* that exerts pressure and has weight. The ordinary experiment of forcing a tumbler mouth downwards into water will suggest the one property, and the other can be easily demonstrated by weighing a flask (1) full of cold air, and (2) full of hot air, and in other ways. The alteration in weight will require some explanation: the experiment of finding the weight of one cubic centimetre of water will be recalled; expansion will be suggested as the explanation of both results; and solids, liquids, and air will be submitted to experiment to test this theory. At first the experiments will be qualitative, but it will be necessary to investigate the constancy or irregularity of expansion by taking, say, in the first instance, different lengths of copper and iron and calculating the expansion in each case to fractional extension per metre according to the variation between the temperature of the tap water and that of boiling water. A quantity of water and of mercury might be similarly dealt with, and the principle of expansion suggested as a means of determining *hotness* or *temperature*. The reasons why mercury, rather than any other substance, is chosen are unsuitable at this stage. A most instructive exercise would now be to put a Centigrade and a Fahrenheit thermometer side by side in a mixture of ice and water over a slow flame and to ask the pupils to record the temperature every thirty seconds until the water boils. A curve should be plotted. What the lesson teaches about the two thermometers should be clearly brought out. The importance of what becomes of part of the heat (latent) is not to be overlooked, but an inquiry into its cause, even an explanation of the physical meaning of the horizontal parts of the curve, may be deferred: it will be sufficient to note such facts carefully for future reference.

the Baro-
meter.

Returning now to the question of pressure of the air, earlier experiments will be referred to, and the subject further illustrated by taking a piece of glass tubing about one metre long (open at both ends), and inserting it perpendicularly in a basin of mercury. The air should be reduced as far as possible by sucking. The mercury rises in the tube, the rise, however, being limited. Inquiry as to the cause of the limit. The Mercury Barometer; Hare's apparatus. Application of the principle in the working of pumps and in the use of the syphon. The attention of the class should be directed to the necessity of stating the conditions under which the volumes of gases are measured. An inquiry into an exact statement of the influence of temperature

(Charles's law), and of pressure (Boyle's law) need not be entered upon, but the advantages of measuring at atmospheric pressure and at a common temperature—say the temperature of the laboratory—should be made quite clear. The danger of generalising from insufficient data (air only) will be avoided by drawing attention to the work of other experimenters on other gases.

The effect of summer heat on pools of water may introduce the question of evaporation. A quantity of natural water will be evaporated and a residue found; water dissolves substances; quantitative study of the solvent action of water; use of solution in separation of mixtures; distillation, and the conception of pure water.

Second Year's Course.

Heat common metals (lead, copper, iron, silver, magnesium, tin) in an iron spoon over a gas flame and record results. Note that some of the changes (change in colour of silver, softening of iron, etc.) are temporary, lasting only while heat is applied, while others are permanent. Mercury should be heated in a "Florence flask," furnished with a cork, and a long tube to act as condenser. (This experiment must be continued for two or three days in order to obtain a sufficient amount of the product.)

The effect of heat on sulphur, salt, chalk, coal, bread, and lean meat may also be investigated.

Iron filings are weighed, moistened, and allowed to rust, then dried and weighed again. The increase in weight suggests that something has been taken from the air, and in order to test this the experiment is repeated in a bell jar standing over water and the disappearance of one-fifth of the air is noted. A change having been previously noted when iron was heated in air, the experiment should be repeated and the fact established that here also an increase in weight occurs.

The use of phosphorus may be introduced by reference to matches. A small piece is first burned under a dry bell jar and the formation of a white snow-like solid is noticed. This experiment is repeated, using a weighed tube with an asbestos plug in which the oxide is collected and the increase in weight is proved. A piece of dried phosphorus is now burned in a tightly corked and previously weighed round-bottomed flask, to show that no change in weight occurs if all the substances taking part in the change are weighed before and after the experiment. On removing the cork for an instant after weighing, air enters and causes an increase in weight. The experiment should be repeated, opening the flask under water to show that, as in the case of iron, one-fifth of the air has disappeared. In another experiment phosphorus should be allowed to remain in a bell jar of air standing over water until it ceases to smoke, and the disappearance of one-fifth of the air again observed. The residual air from different experiments is now compared and the observation made that phosphorus will not burn in the residue from the rusting of iron, nor will iron rust in that from the 'rusting' or burning of phosphorus. The conclusion that when iron rusts or phosphorus burns each substance combines with a part of the air is established, and the striking difference in properties between the new substances and the bodies which make them up should be brought out and emphasised.

Burn a candle in a closed dry bottle. The fact that the candle, like the phosphorus, soon ceases to burn, leads to the conjecture that it may also combine with part (the active constituent) of the air. This is confirmed by the observation that the candle will not burn in the residual air left from the rusting of iron or the burning of phosphorus. The candle is next burned in a bell jar over water; a diminution in the volume of the air is noted, and the fact that in this case it is less than one-fifth leads to the conjecture that the product may be a gas. In the first experiment the formation of dew on the sides of the bottle will have been noted. This experiment is now repeated

in such a way as to collect a quantity of the liquid, which is proved (by determining its specific gravity and boiling point) to be water. Similar experiments may be made with coal gas. Attention should be called to the general conclusion as to the constitution of the air, the difference between mixture and chemical combination, the non-material nature of heat, etc.

Separation of the active constituent of air.

The different earthy substances obtained by heating metals in air are now further examined and the observation made that the black powder obtained by heating mercury, unlike the other earths, disappears when strongly heated. A portion is now heated in a hard glass tube and the gas evolved is collected over water and examined as to its behaviour with iron, phosphorus, and a burning candle. Lastly, the composition of air is confirmed by its synthesis from one volume of the new gas mixed with four of the inactive gas left behind when phosphorus burns. Here attention should be drawn to the absence of all sign of chemical action (evolution of heat, change of bulk, etc.) and to the *gradual* change in the properties of air produced by altering the proportion of the active constituent. Oxygen may now be prepared in the usual way, and phosphorus, sulphur, charcoal, magnesium, etc., may be burned in it, and the formation noted of products which alter the red or blue colours of flowers (use first the colour extracted by pressing geranium or pansy petals between blotting paper, and afterwards litmus). The terms oxygen and oxides may now be explained, and the properties of two or three common acids studied. The attention of the class should also be carefully directed to the quantitative nature of the change produced by heating potassium chlorate and the results of all the pupils' work should be tabulated and the conclusion to which they point emphasised.

Constitution of water.

Recall the formation of water in the burning of the candle; and the conclusion from previous experiments that water must consist of oxygen *combined* with something else which is found in wax, coal gas, etc., but not in metals. The possibility of removing the oxygen by means of metals, leaving the other body free, is suggested, and the idea is tested by experiment, steam being passed over different metals heated in hard glass tubes by Ramsay burners. Copper gives no change, but iron gives a black brittle substance like that obtained by heating iron in air. No other product is *visible*, hence the "something else" is probably a gas. An attempt is made to collect it over water, and this results in the discovery of hydrogen. The conclusion that water is a compound of this gas with oxygen is confirmed by burning magnesium in steam, when a combustible gas is obtained, as well as a white ash identical in properties with that obtained on burning magnesium in air or oxygen. Lastly, the synthesis of water by heating copper oxide in a stream of hydrogen is carried out, at first qualitatively by the pupils and then quantitatively by the teacher. The other method, by exploding the gases in a eudiometer, should also be demonstrated by the teacher. Particular attention is drawn to the fact that the two bodies (elements) combine only in a fixed proportion by weight, and to the entire alteration in properties brought about by their union. (Contrast with the case of air).

Study of chalk.

Point out the resemblance of chalk to magnesia and other oxides. But chalk has been found to be altered in properties and to lose weight when heated. The experiment of heating chalk should here be repeated to bring out the fact that the loss is always a fixed amount—equal to 44 per cent. by weight of the chalk. (Use a Muffle Furnace).

The difference in properties (solubility, alkalinity, specific gravity, action of water) between chalk and lime should be studied, and lime may be compared with some other common alkaline substances, such as potash and washing soda. Ammonia should be more particularly studied because of its value in indicating the presence of nitrogen in a compound, and as an introduction to the conception of a salt.

Experiments are now made to decide what causes the loss in weight when chalk is heated. Since there is no visible product it must be a gas or vapour that is evolved. Chalk is heated in an iron tube in a very slow current of air and the gas evolved is collected and examined. It is found to be incapable of supporting combustion, heavier than air, and acid to litmus. Some of the solution is added to lime water and the formation of a white precipitate (chalk once more) is shown.

The gas evolved by acting on chalk with acids is compared with that obtained by heating chalk. Quantitative experiments are made to determine the weight of gas evolved from a given weight of chalk, and this is found to be the same as when chalk is heated—44 per cent. Having now a convenient method of preparing this gas, it is passed into a large volume of lime water and the precipitate is collected, dried, and examined. It is found to correspond in all its properties with the original chalk. Hence chalk is proved to be a compound of 56 per cent. by weight of lime with 44 per cent. of a gas. This gas is now compared with the gas obtained by burning charcoal in oxygen, both having been observed to give a wine-red colour to litmus solution. It is found to have identical properties, and hence is proved to be an oxide, a conclusion which is confirmed by burning magnesium in the gas with formation of magnesium oxide and carbon.

Lastly, the quantitative composition of carbon dioxide may be determined by burning a known weight of carbon in a current of oxygen and collecting the carbon dioxide in a weighed tube containing slaked lime (teacher only).

The results are now reviewed, and chalk is noted as a typical example of a chemical compound containing its constituents (lime, oxygen, charcoal) in fixed proportions by weight, and having definite properties (specific gravity, insolubility, &c.) quite different from theirs. It cannot be divided by any mechanical means into those constituents; we cannot see lime, charcoal, or oxygen in it, yet we know that it contains all three.

Lime-water is noticed to acquire a surface crust or film on lengthened exposure to air. This is collected, dried, and treated with acids, &c., and found to be chalk. Hence carbon dioxide occurs in the atmosphere. It has already been found that food stuffs leave charcoal when heated, and that charcoal gives carbon dioxide when burned. The formation of carbon dioxide within the human body is proved by breathing into lime-water. Air expelled from the lungs is found not to support the combustion of a candle (the last portions of air expelled when the lungs are nearly empty should be used). A young plant is exposed to sunshine in a bottle of this vitiated air, standing over water, while a similar experiment is made with a second bottle which is kept in the dark. It is found that in the first case the air regains its power of supporting combustion, while in the second it does not. The experiment is repeated, using a solution of carbon dioxide in water, and the oxygen evolved is collected and tested.

The balancing actions on the air of plants and animals may now be discussed and the explanation of the fact that the proportion of carbon dioxide in the air is constant may be elicited.

Third Year's Courses.]

Course (A) for Boys.

The detailed and systematic study in class-room and laboratory of Charles's Law, Boyle's Law, latent heat, specific heat, melting points and boiling points, and the following treated simply—Force: gravitational, magnetic, electric; reflection and refraction of light; the heating, chemical, and magnetic effects of the electric current.

Course (B) for Girls.

DIVISION I.

Fairly detailed and systematic study, in class room and laboratory, of the following:—

Water: hard water, soft water, softening of water. Soap: preparation of soap. Soda: alkaline nature of, &c. Some food stuffs. Flour: separation of gluten. Starch: conversion into sugar. Fats: presence of carbon. Lean meat: presence of nitrogen. Classification of foods. Drinking water: its impurities, sources of contamination, the house supply.

Cookery recipes, health maxims, or dietaries are out of place.

DIVISION II.

The preparation and study of the skeleton of a rabbit; the more important parts to be named, drawn (in different views), and their uses indicated; the digestive, circulatory, respiratory, and nervous systems; the form and position of the chief organs should be drawn *in situ* and afterwards when dissected out, to show the more important details; venous and arterial blood; the changes undergone in the lungs; the process of digestion; animal heat.

Microscopical study of the tissues is unnecessary, except that it is advisable to show blood corpuscles and the circulation in a frog's foot.

It shall not be considered essential that every, or any, pupil shall personally dissect out all the structures, but it is essential that all the pupils should make their drawings from observation of the organs themselves.

Comparison with human organs by means of diagrams.

Both divisions should be taken and the lessons arranged to fit in one with the other as much as possible.

Course (C) for Rural Schools.

The course should include the following subjects, treated experimentally wherever possible:—germination; the young plant; functions of the various parts of the plant, stem, roots, leaves, &c.; the sources from which the plant builds up its tissues; composition of the ash or mineral matter contained in plants; presence of potash and phosphoric acid in the ash; the sources of the mineral constituents of the plant; soils, their classification into "heavy," "light," &c.; determination of moisture, organic matter, sand, and clay in soils; connection between the soil and the rocks from which it has been formed; action of frost; action of earthworms; action of water containing carbonic acid; distinction between available (soluble) and non-available (insoluble) plant food; manures; chief sources of potash, phosphoric acid, and nitrogen; simple physiology, as an introduction to the study of the animals of a farm.

Hints for the experimental study of many of these subjects will be found in various text-books. Several of the investigations here set down for a third year's course are of an elementary character, and may either replace or be taken in addition to certain of the subjects of the first or second year's course; but it should be borne in mind that a sound acquaintance with the fundamental principles of physics and chemistry is an indispensable preliminary to the successful study of Agriculture.

The thoughtful teacher will scarcely need to be reminded that the circumstances of rural schools afford exceptional facilities for the first-hand observation of various natural phenomena, and various methods will doubtless suggest themselves by which his pupils may be trained to make systematic observations of some of these phenomena, and to make an accurate record of their

observations from day to day. In this connection his attention may be specially directed to what has been called the method of "regional survey," by which, from the systematic field study of the physical features, the climate, the rocks, the soil, the plant-life, etc., of his native district, it is sought to give the pupil not merely an acquaintance with these particular phenomena, but also a sense of the inter-dependence of the sciences, and an invaluable standard of reference in future reading.

III. SECONDARY EDUCATION.

*Science and Art Grants
to Higher Class Schools.*

Circular 296

(Circular to Managers of Higher Class Schools.)

Scotch Education Department.

28th August, 1900.

SIR,

The conditions of grant for Science and Art instruction set forth in the accompanying Minute are intended to replace those of Sections LVI. *seq.* of the Science and Art Directory, and also those of Section XLIII. in so far as the latter apply to classes in Secondary Schools in Scotland.

They apply to Higher Class Schools as defined by the Education (Scotland) Act, 1872, and to such other schools giving a general education to pupils over 12 years of age as are not in receipt of grant under the Code. They do not apply to evening or other classes giving instruction in special subjects only. Grants to these latter continue to be regulated by the Science and Art Directory of 1899, as modified by Their Lordships' Minute of 29th January, 1900.

My Lords are of opinion that except in very special circumstances some training in the methods of experimental investigation ought to form an integral part of the curriculum of the class of schools referred to. The amount of such work for pupils in the earlier years of their course (say between the ages of 12 and 15) can only as a rule be moderate, regard being had to the age of the pupils and the necessities of a general education; but my Lords have thought it well to lay down a minimum of three hours a week (for Course A) as the least in which it can be expected that satisfactory results will be obtained. The extent to which this minimum may be exceeded is a matter to be determined by each school for itself from experience. On the other hand, it is to be hoped that in a considerable number of schools some portion at least of the pupils at or beyond 15 years of age will concentrate their attention more and more upon the Science side of their work, and to that end the additional grants under Section III. of the Minute are offered.

When a satisfactory course in Experimental Science (Course A) has been provided, it will be for Managers to determine which, if any, other courses shall be taken up, and by what pupils, and the time to be allotted to each.

My Lords desire also to leave to Managers and teachers a large discretion in submitting courses of instruction under the several heads. They trust that the interests of different classes of pupils will be duly considered, and, in particular, that great attention will be given to the framing of suitable courses for girls in mixed schools.

Under Head A a course *either* in Physical *or* in Natural Science may be submitted if it is so desired, provided that it is essentially a course of experimental investigation. As a rule, however, each course should include some study of the fundamental facts of Physics and Chemistry (Physics preceding Chemistry), while a certain initiation into the study of Natural Science may be provided for by devoting a certain portion of the time allotted to Science in the summer term to field excursions and discussions in class of the observations made. Thus, while the winter term is mainly devoted to laboratory work, and while such work should not be wholly omitted during any portion of the year, it may at suitable seasons of the year be replaced in part by field study of the natural sciences, or the total time given to Science

at such seasons may be increased. Such a course might be made equally suitable for girls and boys, and in this way the unnecessary multiplication of parallel courses in the same school may be avoided.

While it has been found convenient to distinguish between theoretical and practical instruction, it should be clearly understood that the essential part of every course in A consists in the individual investigations and observations of the pupil himself and the orderly recording of his results and conclusions, whether these be right or wrong. The theoretical instruction should consist merely in the discussion, explanation and summarising of the results obtained and should have no separate period expressly allotted to it. In other words, the practical work should not be regarded as illustrative of a parallel course of systematic instruction in theory, but contrariwise, the theoretical instruction should be explanatory to such extent as may be necessary, and that only, of the results arrived at in the practical work.

In courses B and C, my Lords wish to distinguish clearly between drawing as an art subject and drawing as an application of geometry. The latter should, where possible, be taken by the mathematical staff, and should in all cases be under the general supervision and direction of the mathematical master. Some observations as to the nature of the instruction which it is desired should be given under heads B and C, will be found in Sections II. and III. of the Appendix to the enclosed Circular (294),* and these observations should be kept in view in framing courses for approval.

Though instruction in Mathematics (including Arithmetic) is a necessary condition of grants under this Minute, it has not been thought necessary to make any regulation as to the time which should be given to this subject. Their Lordships have reason to think that in schools of the class to which the Minute refers, the subject of Mathematics already has sufficient time devoted to it, but They would desire to see the instruction in this subject brought into intimate connection with the course of instruction given under heads A and C. To this end those forms of calculation (the use of decimals, graphs, logarithms and the simpler applications of trigonometry) which have a direct application to the Science courses might receive special attention.

The value of the instruction in all the courses will be judged of by inspection and examination, but any examination which may be made will follow closely the profession of work, and to this end a careful record of the work done at each meeting of the class should be kept and the laboratory notes and exercise books of the pupils should be preserved.

Special importance will be attached to the examination for the Leaving Certificate in Science, which is based upon the actual profession of work of each School, as indicating the final outcome of the work of this side of the school. Their Lordships think it of the utmost importance that the orderly working out of the programme proposed should not be disturbed by any considerations of the requirements of external examinations, and accordingly, presentation in any subject at the Local Examinations in Science and Art will not be required, nor unless in very exceptional circumstances permitted.

— It is Their Lordships' desire that instruction in Science and Art under this Minute should not be regarded in any sense as an extraneous addition to the work of the school, and They do not wish to impose any burden of additional registration. Registration in the ordinary class registers will accordingly be accepted, provided that the statement of number of hours of attendance on which the grant is claimed for any course can be fully vouched for from these registers.

* See page 97.

The method of calculating grants proposed in the Minute proceeds on the supposition that the instruction for which grant is claimed will form part of the regular curriculum of the School, and will as a rule be given in equal periods throughout the School year, but provision is made for such variations in the amount of instruction as may be approved of from time to time, and for proportioning payments accordingly.

Application for grants under this Minute should be made on forms which will be supplied by the Department for the purpose.

I have, etc.,

H. CRAIK.

(Re-issue, with modifications, of Minute of 24th August, 1900.)

EDUCATION (SCOTLAND).

MINUTE of the COMMITTEE OF COUNCIL ON EDUCATION IN SCOTLAND dated 30th May, 1903, amending the terms of the Minute of 24th August, 1900, providing for the administration and distribution of Grants for Science and Art Instruction in Scotland.

At Dover House, Whitehall, the 30th day of May, 1903.

BY THE LORDS OF THE COMMITTEE OF HIS MAJESTY'S
MOST HONOURABLE PRIVY COUNCIL ON EDUCATION IN
SCOTLAND.

Read :—

The Minute of the Committee of Council on Education in Scotland dated 24th August, 1900.

Resolved :—

That the said Minute shall read as follows* :—

That in the case of Higher Class Schools or other similar Schools not in receipt of grant under the provisions of the Scotch Code, the conditions of grant from the sum of money voted annually by Parliament for Instruction in Science and Art in Scotland shall be as follows :—

I. The Managers of any such school may submit a scheme for the instruction of the pupils in—

A. Physical and Natural Science.

B. Drawing (which may include Modelling

* (The paragraphs amended are indicated by a marginal line.)

C. Practical Geometry and Educational Handwork of any approved form.

D. Cookery, Laundry Work, Dressmaking, or other Form of Practical Household Economy.

and such scheme, when approved, may be made the basis of grants in accordance with the following regulations :—

(a.) No scheme will be approved under this article unless the Department is satisfied that the curriculum of the school makes due provision for the instruction of the pupils in the other main branches of a general education.

(b.) No grant will be made on account of the instruction of any pupil in B., C. or D. unless a reasonable number of the pupils enrolled for these courses also receive regular instruction in A., in a course which satisfies the conditions of the next following sub-section.

(c.) No grant will be made on account of instruction in A. unless (1) the time-table of the school provides for a satisfactory amount of instruction in Mathematics (including Higher Arithmetic) and (2) due provision is made in properly equipped laboratories for experimental work on the part of the pupils in courses approved by the Department.

(d.) The minimum number of hours per week recognised for a grant in A. shall be three hours, of which not less than two shall be occupied in practical work on the part of the pupils.

(e.) No grant will be made on account of instruction in C. unless on the one hand it is related to the instruction in Mathematics, and on the other is exemplified in its application to some practical purpose.

No grant will be made on account of work in wood, iron, cardboard modelling, or other similar occupation, which is not preceded or accompanied by instruction in Practical Geometry.

(f.) Not more than 40 pupils shall be taken at a time by one teacher for theoretical instruction in any of these subjects, nor more than 20 for practical instruction, unless a laboratory assistant is provided, in which case the number may be increased to 30.

(g.) Practical instruction must be given in lessons of at least two periods (1 hr. 20 mins.) duration. The time table of the school must be arranged so as to leave sufficient time to the Science teacher for laboratory preparation.

(h.) The instruction in all subjects for which grant is claimed must be given by teachers whose qualifications are proved to the satisfaction of the Department.*

(i.) No attendances of any pupil who is under 12 years of age, or whose attainments have not been shown to the satisfaction of the Department to be equivalent to those required as a condition of enrolment in Supplementary Courses or Higher Grade Departments under Article 29 of the Day School Code, may be reckoned for grant.

II. When these conditions are fulfilled, and when the Department are satisfied on the Report of Their Inspector that the profession of work has been satisfactorily carried out, a grant may be made on the average attendance of

* Eventually the possession of a degree in Science of some recognised University or Science College, granted upon a curriculum which ensures adequate experience of experimental work in Science, will be deemed a necessary qualification for teachers of Science in schools of this class to which grants are made.

duly qualified pupils, at the rate of 10s. for each hour per week of instruction throughout the school year in A., 5s. in B., and 6s. 8d. in C. and D. Provided that no attendances in A. shall be reckoned in any week on account of any class in which instruction has not been given within that week sufficient to satisfy the conditions of sub-sections (d) and (g), of the foregoing paragraph, nor shall the attendance of any pupil for theoretical instruction alone in any one week be reckoned.†

(a.) For the purpose of this article the normal school year shall be regarded as 40 weeks, and the numbers on which the grants for each course are to be calculated, at the foregoing rates, will be determined by adding together the number of hours of attendance made during the year by all the pupils attending that course, and dividing by 40.

(b.) The instruction in each course must extend over the whole school year, except where the Department, in consideration of special circumstances, sanctions another arrangement, and must be, as far as possible, evenly distributed throughout the year.

III. In schools which provide a course of instruction in A. or C., according to an approved scheme, and extending over more than two years, the rate of grant for instruction in these courses may be increased by one-half, but only on account of the further attendance of pupils who have successfully completed a two years' curriculum, and have been in attendance for not less than 300 hours at the courses of instruction in A., or in A. and C. conjointly. This additional grant may be made on account of instruction in A. alone, or in both A. and C., if instruction in C. has been given to a reasonable extent in the two previous years. Provided always that not less than eight hours per week are given to A. by the pupils whose attendances are reckoned for the additional grant.

(a.) Pupils who have completed a course of at least three years, in accordance with the foregoing regulations, will be eligible for admission to the Leaving Certificate Examination in Science, and the result of such examination may be taken into account in the award of the additional grant under this article.

IV. The grant to be made in respect of any course, in accordance with the foregoing regulations, may, in exceptional cases, be increased by one-tenth when the Inspector is of opinion that the work is of conspicuous merit, and the grounds of such opinion shall be fully set forth in his report. It may also be reduced by one or more tenths on the ground of unsatisfactory work, or for defects of equipment or organisation, or for any failure to meet the requirements of the foregoing articles which may tend to lessen the efficiency of the work done.

V. The whole grant earned by the school may be reduced by its excess (if any) over the income of the school, as a whole, from local sources (including income from rates, subscriptions, endowments, and contributions from Local Taxation Funds administered by various public bodies, but exclusive of income from fees).

VI. It shall be a condition of grants, under this Minute, that a fixed salary shall be paid to the teachers of the classes for which a grant is sought, either in respect of their work in these classes or their work in the school as a whole (but exclusive of any employment in evening classes held in the same or other schools), and any grants received shall be paid into the School Account, and be used by managers for improving the efficiency of the School.

† *Exception.*—This provision will not apply in any week in which one or more meetings of the class have been missed owing to a public holiday or other cause approved by the Department at the time.

Leaving Certificates

Circular 340.

Scotch Education Department.

(Circular to Managers.)]

16th January, 1902.

SIR,

With reference to Their Lordships' Circular of the 20th December, 1901, I am now to lay before you a statement of the conditions under which it is proposed that Leaving Certificates shall in future be issued.

My Lords have decided that there shall be two classes of Certificate. One of these, the LEAVING CERTIFICATE proper, is intended to mark the completion of a full course of secondary education. The other, to be called the INTERMEDIATE CERTIFICATE, is primarily intended to meet the case of those schools which, although they may be doing valuable work in secondary subjects, are yet unable, from one cause or another, to retain their pupils long enough to enable them to reach the standard of the Leaving Certificate proper. This latter certificate will, however, always be open to pupils of any school who may satisfy the prescribed conditions. I am to remind you that, while candidates will no longer be furnished with a "Leaving Certificate" for each subject in which they may be successful, they will receive instead a document certifying that they have passed in a specified subject and grade in the Leaving Certificate Examination. Applicants for Leaving Certificates must have been receiving higher instruction at some recognised school for not less than four years. In the case of applicants for Intermediate Certificates, the corresponding period shall be two years.

To prevent over-pressure, it seems to Their Lordships desirable that a minimum age should be fixed. They therefore propose that a Leaving Certificate shall not be issued to any Candidate who is under seventeen years of age on the 1st of October of the year in which he passes the last of the written examinations that would fall to be recorded on the face of his Certificate. Similarly, the limit for the Intermediate Certificate will be 15.

So far as the written Examination is concerned, the following are the conditions that have been approved of by My Lords.

(a) Candidates for the Leaving Certificate must have passed in four subjects on the Higher Grade standard, or in three subjects on the Higher Grade standard and two on the Lower. A pass in Drawing will be accepted in lieu of one of the two lower Grade passes. All candidates must have passed in Higher English and in either Higher or Lower Grade Mathematics. The remaining subjects may be either Science with one or more languages (Latin, Greek, French, German, Spanish, or Italian), or languages only. But where two or more languages other than English are taken, the candidate's group must include either Higher or Lower Grade Latin. A pass in Spanish, Italian, or Science (in each of which subjects there is only one examination) shall be reckoned as a pass on the Higher Grade standard.

(b) Candidates for the Intermediate Certificate must have passed in four subjects, at least one of these subjects being on the Higher Grade standard. All candidates must have passed in English and in Mathematics, but a pass in Higher Arithmetic will be accepted in lieu of a pass in Lower Mathematics. The remaining subjects may be either Science with one language (Latin, Greek, French, or German), or languages only. There being only one examination in Science, and that on the Higher Grade standard, candidates shall, for the purposes of the Intermediate Certificate, be deemed to have passed in Science on the Lower Grade standard, if they have satisfied the Inspector who visits the School as to their due instruction and progress in Experimental Science and have also passed in Drawing.

In all cases a pass in Honours shall be held to cover a pass in Higher Grade, and a pass in Higher Grade to cover a pass in Lower Grade. The Grade in

which a candidate passes in each of the subjects in respect of which the Certificate is awarded, will be recorded on the face of the Certificate. Any further successes that may have been gained, such as passes in any of the additional Mathematical subjects, or in Book-keeping and Commercial Arithmetic, or in Commercial French or Commercial German, will be placed to the credit of the candidate by being endorsed on the Certificate.

I am, however, to inform you that it is not the intention of Their Lordships that Certificates of either class shall be issued merely on the strength of the requisite number of passes in the written Examination. My Lords must be satisfied that the course of instruction undergone by the candidate has been of adequate range and quality, and that proper attention has been paid to those elements of the curriculum that do not admit of being fully tested by written papers. The Inspector who visits the School will be instructed to inquire and report to Their Lordships as to these points. Such inquiries will be directed towards ascertaining, for instance, whether the study of subjects in which passes have been secured in former years, is being continued in adequate measure, whether a candidate's knowledge of a language, English or other, has been wholly obtained from disconnected reading, or whether he has a real acquaintance with at least some of the masterpieces of its literature, and whether, especially in the case of a modern language, sufficient care has been bestowed on the training of the ear. In certain circumstances, even in the present year, my Lords may deem it advisable to call for a special report as to the appearance made by individual candidates under oral examination, and They wish teachers and managers to understand that increasing importance will be attached to this aspect of the Examination in future.

To facilitate the arrangements for oral examination, the Official correspondent of the School must forward to the Department by the 25th of March on a form to be obtained from the Department, a list of those pupils who are to be candidates for Leaving or Intermediate Certificates at the end of the session.

The present Circular entirely supersedes the existing regulations for the issue of Group Certificates, except in so far as application for these latter may still be made on behalf of such candidates as have fulfilled the whole of the necessary conditions not later than the Examination of 1901. For the purposes of the new Certificates, candidates who hold what have hitherto been termed "Leaving Certificates" shall be deemed to have passed in the subject and grade thereon specified.

These changes, which have been decided upon after prolonged and careful deliberation, are introduced with the view of fostering continuous and well regulated courses of study according to a definite plan. My Lords trust that, in carrying them out, They may rely upon a continuance of that loyal support on the part of teachers and managers to which the benefits that have so far resulted from the institution of the Leaving Certificate Examination, have been in no small measure due. In particular, teachers should endeavour to secure that the new Certificates are not claimed on behalf of pupils who intend to return to school (this applies with special force to the Intermediate Certificate), while managers should do their best to impress upon the public, and chiefly upon parents and upon employers, a sense of the value of such Certificates as evidence that their possessors have not merely been successful in some isolated examination, but have reached a certain stage in a course of sound educational training fitted to develop their intelligence and prepare them for the work of life.

I have, etc.,

H. CRAIK.

Commercial Certificates.

Scotch Education Department,
16th May, 1902.

SIR,

1. Referring to the concluding paragraph of Circular 348 regarding the institution of a special Commercial Certificate, I am now directed to make further explanation of Their Lordships' views on the subject.

2. They have already in Circular 320 (Circular as to Continuation Class Code—see below), endeavoured to draw a distinction between the general education which must be the main object of all Schools proper, whether Primary or Secondary, and the specialised instruction which is designed to fit a pupil for some special occupation or group of occupations. The latter to be effective must rest upon a solid foundation of the former, though it is obvious that the specialised instruction relative to particular employments will require various degrees of general education as a preliminary.

3. The Merit Certificate, and the Intermediate and Leaving Certificates recently instituted represent three well-marked stages of general education and to each correspond certain forms of specialised instruction to which the general education represented by each of these Certificates forms a suitable and sufficient introduction.

4. Their Lordships have assumed that so far as the Merit and Intermediate Certificates are concerned the specialised instruction referred to will be given for the most part in Continuation Classes or special institutions, and provision has been made accordingly in the Continuation Class Code.

5. Circumstances, however, occur in which it may be convenient and desirable that pupils who have reached a certain stage of general education should receive in Day Schools some amount of specialised instruction, and that not merely in isolated subjects treated as additions to the normal curriculum but according to a well-ordered Scheme, and as part of the regular work of the School.

6. In view of the recent law requiring attendance in ordinary circumstances till the age of 14, the question of specialised instruction within the School for pupils who may remain but a short time after taking the Merit Certificate is one of immense importance, and is now receiving Their Lordships' careful consideration. For the present, however, They propose to deal only with the specialised instruction which may properly follow upon the obtaining of the Intermediate Certificate and that as regards only one important group of subjects, viz., Commercial subjects.

7. The consideration of the curriculum appropriate to a special Commercial department in these circumstances naturally takes account in the first place of the attainments with which the pupils enter as the result of their course of study for the Intermediate Certificate. That Certificate indicates a certain degree of attainment in the following range of subjects, viz., English, Arithmetic and Elementary Mathematics, two languages other than English, or one language with Science and Drawing. All these subjects are valuable elements of a general education, and up to the stage of the Intermediate Certificate they should be treated from this point of view alone. But they also form the most suitable preparation for special Commercial studies. After the Intermediate stage, certain of these subjects, while continued, will naturally be given a special direction. Thus the instruction in foreign languages will be concerned chiefly with the vocabulary and subject matter of Commercial correspondence and with the language of every-day life, Arithmetic will be of the kind denominated Commercial Arithmetic, and under the head of English instruction in handwriting, Précis writing, and business correspondence will become prominent, though it is highly desirable that some amount of reading of standard English authors should be continued. Science and Drawing are

included as a rule in the requirements for the various Commercial Certificates which have been proposed by Chambers of Commerce and other bodies interested in commercial education, and the importance of these subjects as elements in any complete scheme of commercial education may be taken to be generally admitted. My Lords are of opinion, however, that these subjects in some measure should more properly be included in the scheme of general education which precedes specialized instruction of whatever kind, whether Commercial or other, and the course of study for the Intermediate Certificate admits of this being done. When once the special Commercial course is entered upon the instruction should be concentrated as much as possible upon subjects which have a direct bearing on Commerce.

8. In addition to the specialized study of Arithmetic, English, and foreign languages already alluded to, the course of study in a Commercial department may be expected to embrace Book-keeping, Shorthand, and Commercial History and Geography. While My Lords will be prepared to consider proposals for the inclusion of any other special subject which may be deemed to be of importance for the end in view, They think that for the sake of simplicity of School organisation and in the interests of orderly study these special subjects should not as a rule be taken up till the Intermediate Certificate has been gained. Up to that stage the only subjects admitted to the curriculum should be those which have a disciplinary value apart from the particular occupation which the pupil may intend to follow; on the other hand the subsequent concentration upon distinctly Commercial subjects may be expected to achieve results which could not be looked for were these subjects taken at infrequent intervals in a general curriculum extending over a longer period.

9. It is upon the foregoing considerations as to the nature of the appropriate curriculum that the following proposals for the institution of a *Commercial Certificate* are based.

It is proposed—

- (1) That the Certificate should be given only in Schools which possess a regularly organised Commercial department, the staff, appliances and curriculum of which have been approved as satisfactory.
- (2) That it should be restricted to pupils who have obtained an Intermediate Certificate or have satisfied the examination requirements for that certificate, except as regards passing in the *Higher Grade* in one subject, before entering upon their special Commercial studies.
- (3) That the special Commercial course should extend over *at least* one complete year, and that in order to be eligible for the Certificate candidates should be not less than 16 years of age on the 1st of October following the examination.
- (4) That the principal subject of instruction should be a modern language other than English.
- (5) That in addition instruction should be given in Commercial Arithmetic, Book-keeping, Shorthand, and Commercial History and Geography.
- (6) That candidates should pass in the *Higher Grade* in the Leaving Certificate Examination in one modern language either as one of the subjects taken for the Intermediate Certificate or subsequently, and that they should also pass in the special Commercial paper in that language. Success in any grade of an additional language would be recorded on the Certificate.

10. The examination in Commercial Arithmetic, Book-keeping, and Commercial French and German will be conducted as heretofore by means of papers set for Schools in common; the examination in other subjects of the approved curriculum will be conducted at the School either by means of set papers or otherwise as may be determined.

11. An endeavour will be made to give on the Certificate as precise an indication of the candidate's actual attainments in various subjects taken as may be possible.

12. My Lords have thought it right to place before Managers of Schools and others interested at as early a date as possible this statement of Their views both as to the nature of the Certificate and the place it should hold in the general School system in order that Their proposals may receive the fullest possible discussion. In this as in Their previous efforts towards evolving an orderly curriculum for Schools of various grades, They value very highly the co-operation of School Authorities, and They will be prepared to give careful consideration to any suggestions bearing on these proposals before they are finally adopted.

13. Should Their Lordships' proposals for the institution of a Commercial Certificate on these lines meet with acceptance, it would be matter for consideration at a later date whether a parallel course (with corresponding Certificate) following upon the obtaining of the Intermediate Certificate, should not be devised for the benefit of those pupils who on leaving school will enter a Technical College or will be engaged in technical or industrial occupations. The main subject of such a course would be the further study of Science and Mathematics with—in addition—such subjects as Drawing with Instruments, Machine or Building Construction, and Wood or Iron Work. In that case it would be possible to regard the Leaving Certificate instituted under the regulations of Circular 340 as being what strictly speaking it is, the Leaving Certificate of the Secondary Schools, which indicates primarily ripeness for University studies.

I have, etc.,

H. CRAIK

Circular 375.

Commercial and other Certificates.

Scotch Education Department,
28th January, 1903.

SIR,

1. Referring to Circular 358, I am now to state that My Lords have given most careful consideration to the replies received from various bodies interested in the proposals foreshadowed. These replies have been, perhaps, less numerous than might have been anticipated. At the same time, they include expressions of opinion which are fairly entitled to be regarded as representative. My Lords, therefore, feel justified in now laying down, without further delay, the lines upon which They are prepared to proceed.

2. Their Lordships desire me at the outset to remind you of the general principle underlying Circular 340. It is quite evident that the real importance and bearing of that principle have not always been fully understood. It was never intended that the change should be regarded as the mere substitution of one collective certificate for a certain number of single certificates in separate subjects. As explained by Their Lordships, the purpose of the new group certificates was to furnish "evidence that their possessors have not merely been successful in some isolated examination, but have reached a certain stage in a course of sound educational training fitted to develop their intelligence and prepare them for the work of life." In other words, the granting of a group certificate presupposes the existence of a definite and well planned curriculum through which the successful pupil has passed. This curriculum should be determined mainly by general educational considerations, but also to some extent (at least in its later stages) by the special nature of the calling to which the pupil in question proposes to devote himself. Thus the Leaving Certificate as defined in Circular 340, is primarily intended to

indicate ripeness for University study. In these circumstances it is essential that the minimum requirements insisted upon should be such as should guarantee that the pupil who possesses it is fully prepared to enter upon University work. In the main they must correspond with the regulations laid down by the recent Universities Commission, so that the holder of a Leaving Certificate issued by this Department may, as such, be able to claim exemption from the Preliminary Examination. Within these limits, the utmost freedom of choice has been allowed, provision being made alike for the purely scientific student and for the student who intends to make languages, ancient or modern, his main University subject.

3. For the Leaving Certificate, in the sense just explained, it was comparatively easy to frame conditions. These were really determined by University requirements, and by the circumstances which had led to the adoption, within the secondary schools, of a curriculum specially designed to meet University needs. This, however, is only a part of the problem with which Their Lordships have to deal. All pupils who remain at school after the age of 15 are not necessarily destined for the University. In other countries the distinction finds expression in the existence of different types of schools. How far such a solution is practicable in Scotland is a question that demands greater consideration than it has hitherto received. In the meantime, it is highly desirable that there should be indicated certain clearly defined lines of possible school courses, the successful conclusion of each of which should be marked by the award of a distinctive certificate.

4. The Commercial Certificate should, therefore, mark the successful conclusion of a curriculum specially suited for lads who propose to enter on a business career. Their Lordships' general views on the nature of such a curriculum have been explained in Circular 358, and they need not be repeated here. Regarding one point, however, considerable misconception appears to prevail. My Lords do not consider it essential that the work for the Intermediate Certificate in all subjects should have been completed before the pupil enters on the special Commercial course. The examination in a Higher Grade subject may be deferred. Nor has it always been noted that the fundamental part of Their Lordships' proposal is that this Certificate should be given only in schools which are in possession of a regularly organised Commercial Department, the staff, appliances, and curriculum of which have been approved as satisfactory. To throw it open to all and sundry who might chance to have secured a certain combination of passes, would seriously detract from the value of the Certificate, and would be entirely contrary to the principle of Circular 340. The replies which my Lords have received have revealed considerable differences of opinion on points of detail. This was inevitable in view of the fact that different localities are concerned. But the questions raised do not call for discussion here. Their Lordships have never contemplated insistence upon rigid uniformity of programme. If the special Department is organised, then my Lords will be prepared to consider any proposals for a curriculum which Managers may favour, provided these are in reasonable conformity with the general indications given in Circular 358. In view of the special object of the curriculum, I am to suggest that, before forwarding their proposals to this Department, Managers would do well to consult the local Chamber of Commerce, or other interested persons, and should endeavour to enlist the sympathy of the commercial community in the proposed Commercial Department to the extent, if possible, of obtaining some practical recognition of the Certificate by business firms. As Their Lordships have repeatedly pointed out, such recognition is the first essential towards any improvement in present conditions. Definite proposals for a Commercial Curriculum may be submitted to this Department forthwith.

5. Further, my Lords are prepared to consider, on parallel lines, definite proposals for a Technical Curriculum and a corresponding Technical Certificate. Here it is probable that local needs will vary much more than in the

case of the Commercial Curriculum. There is, therefore, even greater reason to refrain from suggesting any rigid or stereotyped course. Sufficient information as to Their Lordships' attitude on the question can be gathered from a comparison of Paragraphs 9 and 13 in Circular 358.* It should, perhaps, be added that continued practice in English Composition and in the reading of standard English authors will be regarded as a necessary accompaniment of every specialised course.

6. Lastly, my Lords have no desire to check local initiative in any form. The curricula covered by the Certificates discussed above appear to Them to be sufficient to provide for all the ordinary varieties of career to which pupils may be looking forward. At the same time, They are ready to consider any special curriculum which Managers may choose to lay before Them. If this curriculum serves a definite purpose, is well ordered in its choice of subjects, and is followed as a distinct and separate course by all the pupils of the school, or by a definite section of them, it will receive Their Lordships' approval, and a special group Certificate will be issued to those candidates who are successful in completing it, provided they are not less than 17 years of age on the 1st October of the year in which they pass the last of the written examinations that may fall to be recorded on the face of the Certificate.

7. In this way, while the regulations for the Leaving Certificate are determined by University considerations, the precise conditions under which the Commercial, the Technical, and any special Group Certificates which may hereafter be recognised are issued, will depend upon the exact character of the curriculum that has been in each case approved of. My Lords have every confidence that Managers will realise the gravity of the responsibility thus laid on them. Their Lordships, on Their part, will endeavour to maintain a high and, as far as possible, a uniform standard in judging of the various curricula that may be submitted to Them for approval. It will be obvious that in this respect the greatest care must be exercised if the Certificates are to have the meaning and the value which should properly attach to them.

I have etc.,

H. CRAIK.

Circular 367.

Leaving Certificate Examination
and
King's Scholarship Examination.
Drawing.

[Latest issue—Annual Circular.]

Scotch Education Department,

31st August, 1903.

SIR,

I am directed to state that my Lords are now prepared to consider applications for next year's examination in Drawing of pupils in Secondary Schools, or in the Higher Grade Departments or Supplementary Courses of Elementary Schools. This examination forms an integral part of the Leaving Certificate Examination, but, as in the case of Science, only one standard will be recognised for a pass. If pupils who have once passed give evidence of further successful work in this subject in subsequent years, an endorsement to

* Paragraph 13 explains, with reference to the Technical Course (with corresponding Certificate) that "the main subject of such a course would be the further study of Science and Mathematics, with, in addition, such subjects as Drawing with instruments, Machine or Building Construction, and Wood or Iron Work."

that effect will be made upon the Leaving or Intermediate Certificate they may obtain at the end of their school career. In order that applications for examination may be entertained, the Department must be satisfied—

- (a) that the school is suitably equipped for the purpose of giving instruction in Drawing ;
- (b) that the qualifications of the teachers are such as may be approved by the Department ;
- (c) that the curriculum of instruction is satisfactory ;
- (d) that all the pupils presented will be over 15 years of age on the 1st October succeeding the examination, and that they have been under instruction according to the approved curriculum for a period of at least three years, receiving instruction for two hours a week or for such time otherwise distributed as will amount in the aggregate to an average of two hours a week over the whole period of instruction, provided always that the distribution of instruction is approved of as satisfactory.

When the application is admitted, an examination will be held at the school by Inspectors of the Department or by other persons specially appointed. As far as possible, the examination will be held on a date convenient for the school.

A list of candidates, including Pupil Teachers desirous of being examined for the purpose of obtaining marks in Drawing for the King's Scholarship Examination, 1904, must be presented to the Examiner, which shall show as regards each candidate the precise amount of instruction received, and the proficiency attained in each branch of the approved curriculum as determined by the teacher's award of marks throughout the course.

All drawings and exercise books of the candidates must be preserved and must be available for reference by the Examiner, who will also set such tests relative to the approved course of instruction as he may deem expedient.

Schools desiring to present candidates, either for the purpose of the Leaving Certificate or the award of marks for the King's Scholarship Examination, should make application to the Department at once for Form A. 46 ; this form, duly completed, should be received in the Department not later than the 31st October, 1903.

I have, etc.,

H. CRAIK.

[LATEST ISSUE—ANNUAL CIRCULAR.]

Leaving Certificate Examination

and

Circular 368.

King's Scholarship Examination.

Science.

Scotch Education Department.

12th September, 1903.

SIR,

I am directed to state that my Lords are now prepared to consider applications for the examination in Science of pupils in Secondary Schools or in the Higher Grade Departments or Supplementary Courses of Elementary Schools. Only those scholars who have received instruction in Science in recognised Schools, according to a curriculum which extends over three years and provides throughout in every case for experimental work on the part of the pupils, will be accepted for the examination, success in which will testify to the satisfactory conclusion of an approved course of instruction in the subject. An accepted course must embrace, as a rule, a minimum of 480 hours' instruction in Science.

The examination forms an integral part of the Leaving Certificate Examination, but will not be on the same footing as in other subjects, where one or more papers are set for all candidates. Instead of this, it will be chiefly oral and practical, and in each School will be based upon the curriculum of the School and upon the profession made of the work done, provided that the curriculum can be regarded as satisfactory in character and the profession of work as adequate in amount. It must be understood, however, that the standard will be a high and, so far as my Lords can secure it, a uniform one. As in previous years, this examination in Science will be on the Higher Grade standard. If pupils who have once passed give evidence of further successful work in Science in subsequent years, an endorsement to that effect will be made upon the Leaving or Intermediate Certificate they may obtain at the end of their School career. Further, in terms of Their Lordships' Circular No. 340, of 16th January, 1902, candidates for the Intermediate Certificate may also be presented to the Inspector for approval of their work as to quality and amount. Such approval, combined with a pass in Drawing, shall, for the purposes of the Intermediate Certificate, be deemed equivalent to a pass in Science on the Lower Grade standard.

Schools desiring to present for the Examination pupils or Pupil Teachers (for the purpose of obtaining marks at the King's Scholarship Examination) should make application accordingly to the Department at once for Form A. 58; this Form, duly completed, should be received at the Department not later than the 31st October, 1903.

I have, etc.,

H. CRAIK.

(79)

IV. CONTINUATION CLASSES.

Continuation Class Code.

Circular No. 320.

Scotch Education Department.

August, 1901.

SIR,

The object of this Code has already been briefly stated in the memorandum which accompanied the Code when it was laid before Parliament, but Lord Balfour of Burleigh deems the present occasion a fitting one to make some further explanation of its aims, to define more precisely its field of operation, and to offer some suggestions as to the modes in which managers may co-operate with a view to making the Code an effective instrument for furthering technical instruction in the widest sense. By technical instruction in this connection is to be understood instruction which aims at communicating to the pupils knowledge and facilities which have a *direct* bearing upon some special occupation, industrial or commercial.

The present Code is a further step in the process of re-organising the educational system of the country (in so far as that is controlled by Departmental regulations) which Their Lordships entered upon in 1898, when the administration of Science and Art grants in Scotland was transferred to the Scotch Education Department. The first important step in that process was taken in the Code of 1899, which dealt with the organisation of schools aided under the Code and utilised the money hitherto given for specialised instruction of various kinds in these schools, both under the Code and the Directory, for the more generous support of advanced instruction of a general character beyond the Merit Certificate stage.

By the Minute of the 24th August, 1900, a second important step was taken. In that Minute They dealt with the conditions of Science and Art instruction in schools, which though not eligible for grants under the Code were in receipt of grants under the Science and Art Directory.

In both these cases Their aim has been to simplify and consolidate school work by making instruction in Science and Art, of a kind and amount to be determined by the general aims of the school, an integral part of the *general* education given to all pupils, rather than to encourage the teaching of a multitude of subjects to special sets of pupils.

The Continuation Class Code, on the other hand, presupposes that this general education, whether of an elementary or a more advanced character, is ended, that the pupil has definitely left school, that he is either engaged in some employment or is making special preparation for entering upon it, and that what he desires and needs is instruction dictated by his experience of the requirements of life and of his particular occupation. Even when the subject matter is the same, the method of instruction will be considerably different from what it is or ought to be in schools which aim at giving a general education whether of the elementary or secondary type; and now that provision has been made in the present Code for specialised instruction adapted to the most varied requirements, it will be matter for consideration whether further steps may not be taken to relieve the curriculum of the schools proper, whether elementary or secondary, from elements and subjects which are foreign to their proper purpose.

To turn to the Code itself, it is evident that the value of the specialised instruction given under it will depend in very large measure upon the thoroughness of the previous general education received by the pupils. Hence, the first duty of managers of classes under this Code, who are also managers of schools proper, will be to use to the full every power conferred upon them by the Education Acts to secure prolonged attendance at school. Of scarcely less importance is it to see that when the discipline of school does end it is immediately succeeded by the discipline of regular employment combined with attendance at appropriate continuation classes.

Importance of adequate preliminary training; classes under this Code not a substitute for, but a supplement to, general education.

The Education Act of the present year confers upon School Boards powers which may be used for this purpose, and exemption from school attendance in the case of children over twelve and under fourteen ought not to be granted upon any certificate of attainment, however satisfactory in itself, unless there is evidence to show that the pupil is to enter upon regular employment under suitable conditions, and that such employment is rendered necessary by the circumstances of the parents. In all cases exemption, when granted, should be accompanied by stipulations as to attendance at suitable continuation classes.

Division I.

But whatever the success of these measures may ultimately be—and it is to be hoped that it will be great—for the present the fact has to be faced that considerable numbers of pupils who have left school are still lacking in those elements of a general education which would enable them to profit by specialised instruction in almost any form. It is to meet the case of these pupils that the preparatory classes of Division I. are included in the Code, but this division of the Code should be regarded as serving a temporary purpose only, and its elimination should be effected by well-directed effort to prolong attendance at school, and to diminish the interval that might otherwise exist between the school proper and the continuation class.

A certain standard of general education has been laid down (Articles 11–13) as a condition of admission to classes under Divisions II. and III., and Their Lordships trust that managers will carefully conform to the spirit of these regulations. But the mere exclusion of unfit pupils is in itself only a negative measure, and it rests with managers to take steps such as those indicated above to diminish the numbers of the unfit by giving them an adequate preliminary training.

Divisions II. and III.

But apart from the classes under Division I. and those under Division IV., which will be dealt with later, the realisation of the main objects of the Code may be said to rest essentially upon the success of the classes conducted under Divisions II. and III., and a word of explanation as to the scope of the classes conducted under these divisions may be useful. The subjects dealt with under both divisions are those enumerated in Article 14 and such other subjects as are the natural developments of those named. Both presuppose the instruction of the pupils in a subject, of a well-defined and homogeneous group of subjects, of practical value to them in view of their occupations; but whereas in certain cases local circumstances may render it possible to arrange a comprehensive and progressive course of study extending over several years, in others such continuity of instruction cannot be looked for, and sections or fragments only of the complete course can be dealt with, these being determined by the prevailing wants of pupils and the supply of teachers with suitable qualifications. This latter case is provided for by the regulations under Division II., but it is to be remembered that desultory instruction of this kind, though not without its value, is but an imperfect substitute for the systematic and prolonged study required for recognition under Division III.; and, wherever possible, courses should be arranged under that division—under which alone the objects of this Code can be fully carried out—in preference to Division II. The distinction between classes under Divisions II. and III. is not necessarily one of greater or less advancement, but depends rather on completeness and continuity of curriculum.

Special courses contemplated under Division III.

The courses specifically mentioned under Division III. are commercial and industrial courses. To these others may be added—*e.g.*, courses for the systematic study and practice of industrial art, and courses specially suited for girls. It is obvious that the same course of training in its initial stages may be suitable for several industries—*e.g.*, instruction in geometrical drawing and mathematics is the necessary foundation of technical instruction, relative to a large group of industries—and it will only be in comparatively few cases that specialisation, even at a later stage, can be carried to any great extent, should such specialisation be otherwise desirable. But whether the

course has only a general or an immediate relation to some group of industries, its practical object must never be lost sight of. In these classes, for example, the study of mathematics will take a very different line from that which would naturally be pursued in a secondary school, and will concern itself largely with the construction and handling of formulæ of immediate practical application. In commercial courses, in like manner, the study of modern languages will follow different lines from those pursued in schools where this study is an instrument of general education, though the value of the ultimate results will necessarily be largely affected by the soundness of the preliminary training.

At this point it may be useful, with a view to obviating misunderstanding, to make some observations as to the relation of "courses" under this Code of "courses" to "subjects," such as the numbered subjects of the Science and Art Directory and which those accustomed to the regulations of the Directory may be inclined "subjects." to treat as separate entities. A course of instruction under the Code, whether in Division II. or Division III., may comprise one or more "subjects," or parts of different "subjects" embodied in a syllabus, and so arranged as to secure what managers deem to be the most suitable course of training for certain practical ends, and in relation to a particular set of pupils. For example, a "course" may be arranged under Division II. to give a certain training in arithmetic, book-keeping, and shorthand—with or without other subjects—with a view to use in business. Shorthand may be taken one evening of the week and arithmetic another, or arithmetic may be taken in the earlier part of the session to be followed by book-keeping in the later, or other alternative combinations may be made; but in each case the course will be regarded as one course, and the pupils taking it as one class for the purposes of the Code, irrespective of the division of subjects. The conditions as to length of session, number of hours per week, and attendances to be reckoned (Article 16) will apply to the "course" as a whole, and not to the separate subjects constituting it. Similarly, practical geometry (the whole or part of the syllabus for Subject I. of the Directory) and practical mathematics (Subject Vp. of the Directory) may be combined in one course, these subjects being taken either abreast or at a different period of the session. The only conditions are that the subjects combined in one course must be homogeneous; that the course, as a whole, must have a unity of purpose, and that the syllabus submitted must give reasonable promise that the instruction proposed will be effective for its purpose.

It should be understood that it is not necessary that a course under Division II. should in all cases embrace more than one subject. In the case of courses under Division III. the syllabus of instruction for the current year should be submitted in detail, and should be accompanied by an outline of the complete course of which it forms a part.

It will be observed that there are certain subjects in Division II., such as the Life and Duties of the Citizen and certain others, which have no special relation to any particular occupation, but rather concern the individual as a member of the social community. This applies still more to the subjects of Division IV. for which my Lords have thought it right to make provision in this Code. The physical well-being of youth, the formation of habits of discipline, the cultivation of a sense of citizenship and its obligations, are matters of prime importance to the country, and provision in aid of classes for the furtherance of these objects is made all the more readily that they need not be regarded as the rivals of classes under Divisions II. and III. but rather as useful supplements of these classes, freshening the energies of the pupils and varying their interest.

At the same time the classes under Division IV. must not be allowed to degenerate into mere opportunities for recreation and amusement. A practical outcome will be demanded as the result of instruction for which aid is granted in the shape of evident and genuine proficiency in Gymnastics, These classes not "recreation" classes simply.

Drill, Music, or whatever the subject of the course may be. My Lords dissent entirely from the view that pupils should be coaxed or bribed into attending continuation classes by adventitious attractions. They are persuaded that the work of students who can be attracted by such inducements only will be of little value, while their presence in the classes will have largely the effect of lessening the ardour and obstructing the progress of the more earnest students. Lasting benefit to the country is more likely to accrue from the attendance at continuation classes of smaller numbers of students, provided that these students come with a definite purpose of studying matters the importance of which they have realised in their own experience, and are prepared to make sacrifice both of time and amusement. The cultivation of habits of endurance and self-mastery in the pursuit of a worthy object are of even more importance than the knowledge acquired. It is with these views that my Lords have taken steps (by Article 49) to discount the casual attendance at newly formed classes of pupils who attend for a short time merely from a desire for novelty and fresh excitement.

The main objects of the Code having thus been stated in outline, some subsidiary matters of importance may now be considered.

Examina-
tions and
certificates.

After the fullest deliberation my Lords have decided to discontinue the award of Elementary Certificates on the results of a uniform written examination. There is reason to fear that under this system much of the instruction for which grants are made has been directed simply to the qualifying of pupils for the purpose of themselves earning grants by instructing others and so on in a vicious circle. To a greater or less extent preparation for examinations tends to obscure the real object of the classes, with the result that the ultimate effect upon the industries of the country may be by no means commensurate with the expenditure incurred. Such examinations must be conducted on a limited number of fully detailed syllabuses, with the result that either the liberty of managers in devising courses suitable for particular classes of students will be unduly restricted, or the number of separate examinations must be increased to an extent which will render the system unworkable. My Lords are also of opinion that an examination exclusively in writing is an incomplete and imperfect test of a student's attainments in most, if not all, subjects, and that it ought to be supplemented by oral and practical tests and by a consideration of the actual work done by the student during his course of instruction. Such more complete tests they propose to institute, but only in those cases where the instruction of the student has been carried to such a pitch as will warrant this more elaborate method of examination. As a rule, examinations will be held by the *Depart-*

ment in the case of those students only who have completed a full course of instruction under Division III. according to a syllabus approved by the Department for this purpose; and a corresponding importance will be attached to the certificates so awarded.

In other cases, where the instruction of students falls short of this high standard, my Lords propose to commit the award of certificates to managers (Article 70). Certificates so issued should specify the amount and character of the student's attendance during the session, the character of his work (including class exercises), as adjudged by the teacher, and the results of examinations held by the teacher. Where managers think it expedient they may appoint an assessor to act along with the teacher in the case of the class examinations, and they may make the results of these examinations an *element* in determining the award of the certificates. In making themselves decided, for reasons already stated, to discontinue the award of written examinations applicable to several classes in the country, my Lords will not sanction the award of certificates upon the results of examinations conducted by school authorities themselves, nor may the expenses of such examinations be included as part of the expenses of classes under this Division.

In order that the issue of certificates by managers may be authorized by the Department, the class must have been conducted according to an approved syllabus by teachers recognised by the Department, and must have been favourably reported on by the Inspector, who may, where he deems it expedient, institute a control examination for the purpose of ascertaining the sufficiency of the tests by which the award of certificates has been determined.

In view of the special object of this Code, it is evident that the prime Class of requisite of a teacher is real knowledge of the subject taught rather than that teachers can acquaintance with educational aims and methods which forms a necessary part of the technical training of teachers of schools giving a general education. While, therefore, certificated teachers will prove the most suitable teachers for Division I., for the other divisions other and special qualifications will, as a rule, be necessary. These qualifications should, wherever possible, include a practical acquaintance with the business, occupation, or industry to which the class is relative, and, other things being equal, the instruction given will be all the better if that acquaintance is a present and living one. Experience shows that it is not impossible for teachers or other persons, who from their previous training have become, as it were, examination experts, to pass theoretical examinations in subjects of a technical character while altogether destitute of any practical acquaintance with the related industry. It is evident that instruction by such persons will fall far short in practical utility of that given by persons whose theoretical knowledge is corrected and supplemented by practical experience. For these reasons my Lords contemplate the employment under this Code of a class of teachers distinct and separate from the regular teachers of schools, whether elementary or secondary, and only in exceptional cases should the two functions be combined.

For similar reasons, while the ultimate general management and financial General and control of classes under this Code will, as a rule, be in the hands of persons special whose primary function is that of managers of day schools, it is of the utmost management importance that the immediate direction of each special group of classes of the classes should, as suggested in Article 61, be entrusted to persons who, whether as employers or employed, or otherwise, have an intimate knowledge of the practical applications of the subject matter.

The Code, it is hoped, provides an instrument for the efficient technical instruction of every class of the community which is in a position to benefit by such instruction; but to realise its possibilities in any full measure altogether transcends the powers of merely official action, whether on the part of school authorities or of the Department. These can supply the organisation and the funds and can exercise a regulating and co-ordinating function, but it is for business men, workmen, employers, and professional associations of all sorts to state their requirements in the matter of technical instruction for their several employments; to make suggestions for giving a practical direction to the instruction; and to impress upon apprentices and young people entering on specific employment the duty of availing themselves of the opportunities offered. It rests with employers in an especial degree to further the objects of this Code by granting, wherever possible, to the young people in their employment reasonable facilities for attendance at suitable classes. It may be pointed out in this connection that classes under this Code may be held not only in the evening but at any time of the day. It is probable, for example, that in towns classes for young people employed in business houses may most advantageously be held in the morning. In rural districts in winter the afternoon may be the best time of meeting for a part of the session, the meetings being transferred to the evening as the season advances.

The classes under this Code from their very nature should be of benefit in Finance. an especial degree to the locality in which they are conducted, and though, in accordance with the precedent of previous regulations, a generous measure of State support has been accorded, my Lords have thought it right that at least some portion of the necessary expenditure, over and above the income

which may be derived from fees, should in all cases be borne by the locality. What that necessary expenditure may be it is the object of Articles 51-56 to determine. Managers must provide suitable premises and equipment from their own funds, though it is to be expected that the existing supply of school buildings will in most cases render further expenditure under this head unnecessary; they must determine beforehand, guided by considerations of what is fair and equitable in the circumstances, the amount of remuneration which they are prepared to allow to the teacher for his services, and such sum and such sum only, must be paid irrespective of the amount of grant that may be earned; accurate accounts of all other expenditure must be kept, and where it is impossible to separate completely between expenditure for these classes and for the purposes of the day school held in the same premises, allocation must be made on some clearly explained principle. When the necessary expenditure has thus been ascertained, it is possible that some readjustment of rates as between the various divisions, or even some general alteration may be necessary, and these rates should therefore be regarded as provisional only.

Allocation of
Residue
Grant for
Technical
Instruction.

It has been usual in the past for town and county councils to make from the Residue Grant some contribution toward the expenses of classes such as those embraced by the present Code, and as the conditions of the present Code are such as to render the maintenance of separate classes for the most part unnecessary, it is to be expected that such contributions will be continued and even increased. Where such contribution is made it is suggested that it should *not* take the form of a fixed subsidy, or of a payment upon attendances, or results of examinations. It would be better that the town or county council, if satisfied that the class for which application is made is a suitable one for aid from their funds, that it has been efficiently conducted, and that the expenditure is reasonable, should recoup managers a certain proportion or, in extreme cases, the whole of the deficiency incurred by managers in maintaining the class, after deduction of the income from fees and from the grant under this Code. In this way the danger of overlapping from concurrent grants for the same instruction will be avoided, and a clearer view obtained as to how the necessary expenses of the classes are met.

Nothing in this Code affects the power of town and county councils to establish and maintain classes for which no grant under the Code is claimed; and where they resolve to aid classes established under this Code they must determine for themselves (having regard to the provisions of the Technical Instruction Amendment Act) whether that aid shall be extended to all such classes or restricted to those falling under certain divisions only.

Local
Scholarships. Attention is directed to the provisions for Local Scholarships (Articles 77-83), and specially to the provision for the more effective study of modern languages by residence abroad.

Central
Institutions.

It is hoped that the classes under the main divisions of this Code, presupposing as they do at least a modicum of general education on the part of the pupils, will be of real service to the country by diffusing, extending, and facilitating opportunities for technical instruction in the widest sense of the term to those who realise the need for it in their daily employment. But my Lords are of opinion that any scheme of technical education would be incomplete which did not provide instruction of the very highest kind in applied Science and Art to selected students who will devote their whole time to study. They think, therefore, that a further differentiation of institutions is necessary, and that instead of all alike being subjected to the same set of regulations, as has been done hitherto, a few which have had an outstanding record of success in the past, which are well staffed and well equipped for a considerable variety of work, and which are situated at the natural centres of population for large areas, may be allowed to proceed upon lines of their own, in the hope that they may develop into institutions worthy to rank, not in number of students, but in quality and advancement of work, with the best of their kind in any other country. It is from such institutions, and the opportunities of research and

discovery which they will naturally afford, that decisive advantage to the industries of the country, in so far as that is dependent on educational arrangements, is to be looked for.

For this purpose provision is made in Article 87. The institutions to be placed in this category will be carefully selected, but it would be premature to state at this stage the exact nature of the arrangements which it may be found expedient to adopt in regard to them.

I have, etc.,

H. CRAIK.

SPECIAL MINUTE UNDER ARTICLE 87 OF THE CONTINUATION CLASS CODE
(MADE ON THE 24TH JULY, 1901, AND AMENDED 9th JUNE, 1903) APPLICABLE
TO THE GLASGOW AND WEST OF SCOTLAND TECHNICAL COLLEGE.

Resolved :

That the Glasgow and West of Scotland Technical College shall be exempted from the operation of the Code in terms of the said Article, and that an annual grant not exceeding one-half of the sum approved by the Department in each year as the net cost of maintenance of the said College shall be made thereto from the 31st July, 1903, upon fulfilment of the following conditions :—

- (1) That the Scheme of Work of the College as a whole shall be annually submitted to and approved by the Department.
- (2) That the qualifications of all lecturers and teachers who may be hereafter appointed shall be submitted to the Department for approval.
- (3) That the Governors shall annually submit to the Department a report on the work of the College for the preceding year, and shall further make to the Department a return of such particulars relating to the College as may from time to time be called for.
- (4) That the accounts of the College shall be audited to the satisfaction of the Department, and an abstract thereof submitted for their information.
- (5) That the Department may, at such intervals as may be determined, cause an inspection to be made of any department or departments of the College, either by officers of the Department or by other suitable persons, and obtain from them a report on the work of the said department or departments.
- (6) That all Diplomas and Certificates issued by the College shall be awarded on conditions approved by the Department, who in the case of any examination for Diplomas to be recognised by the Department for any purpose may require the appointment by the Governors of an assessor approved by the Department to act along with the Professors or Lecturers of the College in conducting the examination.
- (7) That the Governors shall, from time to time, make regulations to be approved by the Department as to the qualifications to be required of students for admission to the College or to any class thereof, and shall show to the satisfaction of the Department or its officers that the approved conditions of admission are being observed.
- (8) That the efforts of the Governors shall be directed in the first place to strengthening and enlarging the Day Department of the College for the study of various branches of Applied Science, and to making such provision of trade classes either in the day or the evening as the circumstances of the district may seem to require.

... higher than those of an industrial and
... standardised, nor classes of an elementary
... than the "Trade" subjects already
... of the Department.
... contribution to the funds of the
... the grant under this Minute, but
... at least equal to the said grant.

H. CRAIK.

... the other recognised Central
... .

Circular 350.

... ISSUED ON 8TH MARCH, 1902.

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Inst

Scotch Education Department.
14th December, 1903.

... your attention to Article 70 of the Continuation
... No. 2 to that Code, providing for the issue
... satisfactory attendance and progress to students
... the nature of the procedure which My Lords con-
... the award of these Certificates will be gathered
... regular letter and from the Forms A85 and A52,
... in this connection.*

... point out that all Certificates presuppose a
... which should as a rule be not less than 75 per
... All proposed variations from this rule should
... the approval of the Department.

... attendance a certain standard of proficiency in the
... required for the issue of the Certificate. But it
... that this proficiency is not to be gauged by the
... held at the end of the Session, either by the
... outside examining body. It is presumed that
... subjects which admit of it will be held by the
... end of the Session but at intervals throughout the
... examinations should have due weight in deter-
... Certificate, though it is obvious that increasing
... to those held towards the close of the Session.
... the answers of the students, and the marks
... preserved in the School (Article 15), so that His
... his visits may have an opportunity of satisfying
... held were an adequate test of the instruction
... programme of work of the class, and whether the
... been carefully and fairly made.

... the student should not be judged by the result of
... The weight should also be given to essays, home exercises
... work connected with the class, and it will be found that on
... provision is made for recording the value of the student's
... to such exercises. The essays and exercises, where their
... should also be preserved, so that His Majesty's Inspector
... opportunity of satisfying himself as to the actual standard of
... value to be assigned to class exercises as compared
... with the nature of the subject, and much must be
... of the teacher, though it is probable that the danger to be

... these forms may be obtained on application to the Scotch Educa-
... Department.

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guarded against is rather that of attaching too little rather than too great importance to class work as compared with examinations. In some subjects, as for example, in laboratory work or in drawing, it is obvious that the daily class work should be of greater relative importance as a means of determining the efficiency of the student, and may even altogether replace the examinations.

5. If the purport of the foregoing remarks has been rightly apprehended, it will be obvious that what Their Lordships have in view is a more exacting rather than a less rigorous test of a student's proficiency in any subject than that which governed the award of certificates of this nature before the introduction of the Continuation Class Code of 1901. They desire to give full value to examinations, but They recognise that examinations alone are far from being an adequate test of a student's proficiency, particularly if but a single examination is held, and that exclusively in writing.

6. The Certificate to be issued should express a deliberate judgment as to the proficiency of the student in the work of the class, as judged from every point of view, and it must therefore rest primarily upon the judgment of the person, viz., the teacher, who is best acquainted with the work of the student in all its aspects. It is obvious that a very grave responsibility will therefore rest upon the teacher in connection with the issue of these Certificates, and My Lords trust that this responsibility will be fully realised. Each Certificate will be a public statement over the signature of the teacher that the student named has attained such and such a degree of proficiency in a certain subject. The practical importance of these Certificates may be very great. A merchant, for example, ought to be able to infer from the Certificates in Commercial Arithmetic, Book-keeping, Handwriting, etc., presented to him by an applicant for a situation what the merit of the application is. And so for other employments. Employers will accordingly have a right to complain if these Certificates are found to be in any degree untrustworthy, and it may be the duty of the Department, should culpable negligence in the award of these Certificates be brought home to any particular teacher, to suspend him from further recognition under the Continuation Class Code. But They are unwilling to regard any such contingency as more than remotely possible.

7. While the award of the Certificates and the specification thereon of the student's attainments will rest primarily with the teacher, a certain responsibility in these respects will also devolve upon Managers. They will discharge this most effectively by exercising due care in the appointment of the teacher, having regard not only to certificates of attainment, but to their confidence in his probity and sense of honour. They may as an additional precaution institute an inquiry by *competent* persons as to the sufficiency of the data on which it is proposed that the award of the Certificates shall be made, and they may even, for this purpose, institute a control examination. This examination, however, should serve the purpose only of determining broadly whether the teacher's judgment as to the merits of candidates may be accepted. If the result is satisfactory, the application should be made for authority to issue Certificates; if not, further inquiry must be made as to the grounds of divergence, and a fresh list must be adjusted accordingly. In no case will the issue of Certificates on the results of the control examination alone be authorised.

8. As a further guarantee of the trustworthiness of these Certificates, and consequently as a means of enhancing their usefulness, H.M. Inspector will at any of his visits make such examination as he may deem necessary of the examination papers and exercises set previous to his visit, of the answers of the students to them, and of the values recorded for them in the mark book of the teacher (Article 15). As a result, he may make a recommendation that the standard of marking should be raised or lowered in any particular case, and on the result of his accumulated experience, at the end of the Session he will be able to advise the Department whether the list of candidates forwarded from any particular class should be accepted, whether further enquiry should be made, or whether sanction for certificates should be altogether refused.

9. It is scarcely too much to expect that, as a result of these successive guarantees, the Certificates finally issued will be at least as trustworthy as those issued on the results of a single written examination. The system on which they are awarded, while giving free play to any desirable variation in the syllabus of instruction will enable more detailed information to be given as to the nature of the candidates' attainments—a point of great practical importance.

10. Having in view the great variety of subjects and combinations of subjects which are possible under the Continuation Class Code, My Lords do not propose to issue or to prescribe any uniform type of Certificate. It is obvious that the nature of the entry which ought to be made on the Certificate, if it is to serve its purpose of giving a clear indication of the nature of the candidates' attainments, must vary considerably for different classes of subjects. At the same time the purpose of the Certificate is in all cases the same, viz., to state the exact nature of the attainments to which it certifies in a form which, while sufficiently precise, will be easily understood by merchants and others who may have occasion to refer to them.

11. The Certificate should first and foremost show clearly the range of instruction to which the Certificate is relative. Accordingly, while the name of the subject only, e.g., Commercial Arithmetic, need appear on the face of the Certificate, there should be printed on the back of it a syllabus or description of the actual subjects of study which are to be understood as embraced under the general title appearing on the face of the Certificate. Further, this syllabus or description should be that of the work *actually overtaken* by the class, and not simply what was proposed to be done at the beginning of the Session. Having thus defined the exact scope of the instruction to which the Certificate is relative, what is needed in addition is that the Certificate should show clearly the comparative proficiency of the student in that range of study. This might be done by stating the percentage of marks obtained by him at the class examinations held, the mark given for class exercises of various descriptions and for laboratory work (if any). Moreover, when the syllabus is of such a nature that several distinct branches of study are comprehended in it, or when one aspect of a subject may with advantage be emphasised, it may be advisable that a separate entry should be made of the student's proficiency in each branch, or at all events in that branch which is most indicative of advancement in the course of study as a whole. For instance, in a Modern Language course a mark for pronunciation might be separately entered, and in Shorthand the speed of writing attained might be indicated. In Certificates given in Classes, under Division I., the student's proficiency in Arithmetic, Spelling, Composition and Handwriting should be shown separately. In all cases there should be added a summary mark which gives an estimate of the student's proficiency in the work of the class as a whole, account being taken of all aspects of it.

12. The Certificate should be convenient in form and size, and should show the age of the student, the number of hours of attendance made by him (out of a possible number of hours) and, where it is relative to other Certificates—e.g., when it is for a first year's course in a subject in which there is also a second year's course—the relative value of the different Certificates should be clearly shown. The Certificate should also bear the name of the School Board or other authority by which it is issued, the year of issue, and the Division of the Code in which the class has been recognised by the Department. It should be signed by the teacher of the class, and where the class is part of a larger organisation, by the principal teacher. It should also be signed by the Chairman of the Board, or other person specially deputed, in the name of the Managers.

13. The procedure which My Lords propose for authorising these Certificates is as follows :—

1. Form A85 (or A52) should be forwarded to the Department *in duplicate* as soon as the Managers have been able to get their list of proposed awards adjusted. There should be forwarded at the same time

a specimen (also in duplicate) of the actual Certificate which it is proposed to issue. In framing this Certificate the Managers should bear in mind that it must record fully the details of work entered upon the Forms, and that the terms and values used upon each should be identical.

2. When My Lords have satisfied Themselves, after such enquiry as They may think necessary to make, that the award of Certificates has been properly made, They will return one copy of the draft Certificate and the duplicate Forms to Managers with an authority to issue Certificates to all, or certain, of the candidates on the list.
3. These Certificates should be made out on the approved form, and should be signed, as already stated, by the teacher and a representative of the Managers.
4. They should then be forwarded in parcels to the Department, when, after verification from the list retained in the Department, each Certificate will be stamped with the approval of the Department and returned to the Managers for issue to the candidates.

14. Applications for the special examinations of students who have completed a course under Division III, with a view to the award of Certificates under Article 72, should be made at the beginning of the Session. Examination under this Article can only be relative to a course of study which has been submitted beforehand for the approval of the Department for this purpose and has been adjusted in accordance with its requirements. It is not contemplated that this examination should be held until the approved course has been worked out to Their Lordships' satisfaction. At the conclusion of the course the Managers should forward to the Department a list of those pupils whom they wish to present for the award of Certificates, and arrangements will then be made for their examination by officers of the Department. The Certificates to be issued will be described as Honours Certificates, and will, subject to the conditions of Article 65, be accepted as a qualification to teach subjects included in the course (Article 73).

I am, etc.,

H. CRAIK.

(93)

V. TRAINING OF TEACHERS.

Circular No. 247.

TRAINING AND EXAMINATION OF PUPIL-TEACHERS.

Scotch Education Department,
April, 1899.

(To H.M. Inspectors of Schools).

SIR,

Under the existing arrangements for the examination of Pupil-teachers during the course of their apprenticeship, examinations take place only at the end of the 2nd year.

Furthermore, of those who would fall to be thus examined, a very considerable proportion are excused the examination in accordance with Art. 70 (d) 5 on account of the Leaving Certificates held by them.

Their Lordships gladly recognise the impetus which these exemptions have given to the higher studies of Pupil-teachers, and would not willingly do anything to check progress in this direction : but certain subjects of the Pupil-teacher course which are of the very first importance in the training of the future teachers of Elementary Schools are of necessity either not tested at the Leaving Certificate Examination, or not tested to the degree which is necessary in the case of Pupil-teachers.

These subjects are READING, SPELLING, MUSIC and NEEDLEWORK, and to a less extent, HISTORY and GEOGRAPHY, and it is Their Lordships' desire that H.M. Inspectors should take every precaution to see that these subjects receive *continuous* attention throughout the Pupil-teacher course.

On the other hand, provided that the Inspector is satisfied that the instruction given in these subjects is continuous and efficient, there seems to be no particular advantage in setting a uniform test to be taken by all candidates.

It is accordingly proposed that ALL Pupil-teachers (not merely those who, being at the end of their 2nd year, attend the Collective Examinations) should be tested by H.M. Inspector on his visit to the schools as follows :—

Reading and Recitation :—The Inspector should inquire how and when these subjects are taught, and if satisfactory provision is not made, should report the fact to the Department. He should hear the Pupil-teachers read, deducting marks if necessary in the case of those at the end of their 2nd year, in the manner shewn in Form 10 ; and in the case of other Pupil-teachers, reporting to the Department any instance of a Pupil-teacher failing to attain a really satisfactory standard of clearness, fluency and intelligibility. In Recitation it will suffice to ascertain that preparation is evenly distributed over the year, and that the candidate at any visit has made proportionate progress.

In connection with this subject of Reading, My Lords are of opinion that Pupil-teachers should be encouraged to read, in each year of their apprenticeship, one or more books of standard English literature, and to make themselves acquainted with the matter as well as the form of the work. When this is done, the reading might be taken from the book selected, and some informal examination might be held as to its contents. Their Lordships desire that for the present this should be a voluntary exercise, and the choice of the book should be left to the candidate, though every opportunity should be taken of guiding his choice in the direction of good literature.

Spelling and Dictation :—It should be first of all ascertained what means are taken to perfect Pupil-teachers in Spelling. A Dictation exercise may be set for Pupil-teachers separately, or in conjunction with the highest class of the school. The spelling of all the written exercises of Pupil-teachers in their second year should be taken into account in awarding marks.

Music :—The Pupil-teachers' knowledge of the Theory of Music, according to the requirements for the respective years, may be tested in any way the Inspector may think proper, either orally, or by writing on paper, slates or blackboard. Pupil-teachers may be encouraged to advance beyond the work prescribed for their year, but nothing beyond that work should be demanded as an absolute requirement.

For the convenience of Inspectors and as an aid to them in this examination, a series of 12 tests for each year has been prepared, and this number will be added to from time to time; but the use of these tests is not obligatory. When they are used, they should be judiciously varied in the different schools, and should not be allowed to pass into the possession of the candidates.

My Lords have further caused a series of tests of PRACTICAL SKILL in Music to be prepared (as well as instructions for applying them), and though it is not proposed that these should form a compulsory exercise during the present year, their voluntary use should be encouraged in order that candidates in the various schools may obtain some knowledge of the attainment to be expected in future years.

H.M. Inspector will use his discretion in the use of these as well as of the Theory tests, will encourage Pupil-teachers who have musical faculty to progress beyond the bare requirements, and may from time to time require them to conduct a class in singing as part of their examination in the practice of teaching.

In this, as in other subjects, H.M. Inspector will be careful to inquire as to the arrangements for teaching the subject and the time given to it.

Needlework :—In NEEDLEWORK, similarly, a series of tests for each year has been prepared from which H.M. Inspector may select exercises to be done by pupil-teachers, either on the occasion of his examining the NEEDLEWORK of the school, or at any other convenient time: but H.M. Inspector is not restricted to the use of these tests, and, in the event of a visit made a considerable time before the close of the school year, the exercise set should have reference to the work completed up to that time. It should be ascertained whether home work is given in this subject and if so, whether the amount is excessive or not, and the arrangements for teaching the subject generally should be inquired into.

Pupil-teachers in their 3rd and 4th years might be expected to be able to conduct a class in NEEDLEWORK.

History and Geography :—It is not proposed for the present to add to the examination requirements in these subjects, nor is it proposed to set any general test to those Pupil-teachers who do not attend the Collective Examination: but in these, as in the subjects already mentioned, My Lords regard it as of the utmost importance that the instruction given should be systematic and continuous throughout the Pupil-teacher course, and the Inspector's inquiries should be directed to ascertaining whether this is so. It may fairly be expected that when the instruction in these subjects is systematic, evidence thereof will be found in the dated exercise books of the Pupil-teachers, and in the record of monthly or quarterly examinations held by the teachers. Provided that the instruction conforms to the above requirements, My Lords have no desire to prescribe minutely the work for each year, nor do They wish to limit the discretion of the teachers by requiring them to prepare for a prescribed test in each year.

It will be seen from the foregoing that My Lords attach great importance to ascertaining the actual character of the instruction given to Pupil-teachers, and They think that some account of this instruction might occasionally with advantage be appended to the report on the school.

Where the Pupil-teachers, under any body of Managers, are instructed not in their own schools, but at a Pupil-teachers' Institute or other Centre,

it is desirable that such Institute or Centre should be visited from time to time while instruction is being given, and that an annual report on such instruction should be submitted for Their Lordships' consideration.

It is assumed that examination in the subjects dealt with in this Circular will, as a rule, be made at the school on the occasion of the visit of H.M. Inspector; but Their Lordships understand that, in certain districts, it is the practice to assemble all the Pupil-teachers (not only those of the 2nd year) under one Board or set of Managers for examination in READING and certain other of the subjects dealt with above. They approve of this practice, and consider that it may be followed with advantage wherever Pupil-teachers from a number of different schools can be conveniently brought together for examination in the subjects of this Circular.

It may also, for various reasons, be found convenient in certain circumstances to take the Examination in MUSIC and NEEDLEWORK of those Pupil-teachers, who being in their 2nd year, attend the Collective Examination at that Examination. A note as to the mode of doing so will be found in the Instructions relative to the Collective Examination (Circular 248.) But when these subjects are so taken, H.M. Inspector should be careful to see that the examination in these subjects of Pupil-teachers who do not attend the Collective Examination is not omitted.

I have, etc.,

H. CRAIK.

*Classes for the Further Instruction
of Teachers under Article 91 (d)
of the Code.*

Circular 294.

Scotch Education Department,
1st August, 1900.

(To Local Authorities proposing such Classes.)

SIR,

As some misapprehension appears to exist regarding the nature and object of the classes to be conducted under Article 91 (d) of the Code and the method of establishing and conducting them, My Lords think it desirable to make the following explanations.

These classes are in no way to be confounded with classes conducted under the provisions of the Science and Art Directory in the same or analogous subjects. They differ in respect that the classes under Article 91 (d) of the Code are (1) for the further instruction of teachers and of teachers only; (2) that the object of instruction in these classes is not simply the acquisition of knowledge, preparation for the examinations of the Science and Art Department, or the obtaining of qualifications as teachers under the Directory, but the *training* of the teachers with the direct object of rendering the instruction in such subjects as Drawing, Nature Knowledge, Manual Instruction, etc., in the schools of the district as efficient as possible. Nature and object of these classes.

The course of instruction need not follow the lines of the syllabus of any subject given in the Science and Art Directory nor any combination of these subjects, but should rather be a course of instruction especially designed for the object in view. A programme of the proposed instruction in each subject should accordingly be carefully prepared and submitted for the approval of the Department, who must also be satisfied that the instructors proposed have not only special knowledge of, or skill in, their particular subjects, but are competent to give advice and direction as to the best method of conducting such studies in schools, and if necessary, to illustrate their methods in practice. *The grounds on which any particular instructor has been selected should be very fully stated.*

financial arrangements. The authority proposing such classes must have funds from which it is competent for them to defray the whole expenses of the classes in the first place, it being understood that on the satisfactory completion of the course a grant amounting to not more than three-fourths of the actual expenditure after deduction of the income from fees will be paid by the Department. The remaining portion must be an actual outlay on the part of the Local Authorities who undertake financial responsibility for the classes and may not be made good either in whole or in part by fees payable by the students attending the classes.

On these conditions my Lords are prepared to entertain proposals from Town and County Councils, or other Local Authorities, for the establishment of such classes at such centres as may be found most convenient. But in view of the special facilities for giving instruction of the kind desired which exist at certain central institutions, such as Schools of Art, Technical Institutes, Agricultural Colleges, and in some cases Secondary Schools, my Lords consider that where possible Local Authorities, instead of establishing classes of their own, should come to an arrangement with the Managers of such institutions as to the terms upon which they would be prepared to establish and maintain classes of the kind desired. In such a case one of two courses might be followed. The Local Authority might make itself responsible for the whole cost of the classes arranged for, in so far as that cost is not covered by fees, receiving directly any grant which may be made in terms of Article 91 (d). The other course—and one which would be specially adapted to the cases where classes were established at the instance of more than one Local Authority—would be that the Managers of the school or institution should be in direct relation with the Department, and should as a Committee of or agents for the various Local Authorities who undertake financial responsibility for the classes, make the necessary arrangements for the conduct of the classes, and receive the grant under Article 91 (d), obtaining a guarantee from each Local Authority for a fixed proportion of the expenditure which must be borne locally.

liminary proposals. Local Authorities who propose to establish such classes will on application to the Department receive a Form for the statement of particulars required for the information of the Department. This Form must be returned to the Department at least one month before the date proposed for the first meeting of the classes, in order that opportunity may be afforded for the due consideration and adjustment of the proposed course of instruction.

selection. When on consideration of the information supplied a class has been recognised, it will be visited from time to time on behalf of the Department by an officer deputed for the purpose, who will also towards the end of the course make a report on the work of each individual student. For that purpose he will take into consideration the character of the work done by each student during the session, and the observations of the instructor thereon, but may also set such supplementary tests—oral, written, or practical—as he may think necessary. Such tests will, however, be relative to the work actually undertaken at meetings of the class, or in connection therewith.

credit to be an for satisfactory attendance work. The names of all teachers who have regularly attended a recognised class and whose work is favourably reported on as above, will be recorded in the Department and credit will be given for such attendance and work in connection with any requirement of qualification for the teaching of certain subjects under the Code which Their Lordships may hereafter find it desirable to institute.

Satisfactory attendance and work at a recognised course of instruction of sufficient length in *Drawing* will be held for the present to constitute a qualification to earn grants for *Drawing* in terms of the footnote to Article 19B4 of the Code, and in lieu of the certificates mentioned therein, but Their Lordships may on consideration of the length of the course in any particular case, and the character of the instruction given thereat, require attendance at a supplementary course as a condition of continued recognition.

The classes may be held at any time of the year as best suits the convenience of those concerned, and may provide for instruction either on successive days (holiday courses) or at regular intervals, e.g., on successive Saturdays. The attention of Instructors and others responsible for framing syllabuses of instruction is particularly directed to the Appendix.

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H. CRAIK.

APPENDIX.

My Lords desire to leave a large liberty of suggestion to Managers both as regards the subjects taught in these classes and the details of the course of instruction, but their views on both these points must be clearly formulated in their preliminary proposals in order that each proposed course may be fully considered on its merits.

As regards certain of the courses, however, the following general principle should be kept in view.

I. As regards courses for the instruction of teachers in Drawing.

The essential part of every course must be practice in free arm drawing on a large scale from the shoulder upon blackboards or other specially prepared surfaces, the chalk or charcoal being held in such a manner as to secure the utmost freedom of wrist action.

The forms to be drawn should be elementary art forms such as the ellipse, the oval, varieties of the loop form, conventionalised leaf forms of various kinds, the spiral, etc., arranged as far as possible according to difficulty or natural order of development.

Each form must be diligently practised till it can be drawn with ease, certainty, and *rapidity*, without preliminary measurement or blocking in and to various sizes or to fill a given space.

A bold free line is to be cultivated and for that purpose no measuring whatever should be allowed from the very start. Each line should be executed as far as possible by a single continuous movement, and accuracy should be sought not by laborious adjustments of parts of a form previously blocked out but by successive approximations to the form as a whole made rapidly and with a continuous line. The primary object of the exercise is to facilitate combined action of hand and eye and no form should be considered to be mastered till it can be reproduced with rapidity and certainty and to various sizes. When one of the fundamental forms has been mastered it should be made the basis, either with variations or in combination with other forms, of elementary exercises in design.

These various exercises will involve a large amount of practice, and as the time which can be given to practice at the actual meeting of the classes is limited, it is essential that the practice in the classes be supplemented by practice on the part of the students at home.

It is desirable that the medium of reproduction should be varied as far as possible, and for that purpose the drawing on the blackboard should from time to time be replaced by drawing the same forms with charcoal on paper or by brush drawing always on a large scale.

It is also highly desirable that practice in clay modelling should be carried on *pari passu* with the drawing and wherever possible this exercise should be included in the course but it will not for the present be insisted on in all cases.

The practical exercises should be accompanied by some explanation of the "Principles of Ornament" not necessarily in set lectures but in connection with the introduction of new forms for practice, and it is highly important that there should be at hand an ample supply of examples of good ornament

for purposes of illustration. For this reason among others my Lords must insist that wherever possible the classes for instruction in Drawing shall be held at a well equipped School of Art.

wing (b). On the other great division of the work of these classes to be carried on *pari passu* with the foregoing practice in the drawing of fundamental forms of conventional ornament, should be practice in drawing simple forms such as leaves, flowers, or parts of flowers, shells, fish, birds and simple artificial objects *either from the actual objects or models thereof*.

For this purpose, each student should select for himself the object which he proposes to study, *being as a rule some form which has occurred or will occur in connection with the nature knowledge lessons of the school*.

The first reproductions, however imperfect, of the object selected, should be the outcome of the student's own unaided efforts as suggested to him by a careful study of the forms, but when, after correction by the teacher, a reasonably correct representation has been arrived at, it should be thereafter drawn not merely once or twice but repeatedly till it can be reproduced with facility and certainty *from memory*. Endeavour should always be made to seize the broad essential features of the object to the neglect of details, and here as elsewhere the use of a free continuous line and rapidity of execution should be constantly insisted upon. The medium of reproduction should also be varied and as far as possible a selection of the forms should be modelled in clay. Some of the simpler forms studied may with advantage be turned to account as elements of design.

It is suggested that both divisions of the work—the practice of conventional ornament and of design based thereon on the one hand and drawing from actual objects on the other—should be carried on at each lesson, a certain proportion of the students in turn being engaged at blackboard practice under due supervision, while the others are engaged in the study and reproduction in various ways of actual objects.

Model drawing should not be treated as a separate subject but simply as an accessory to the drawing from actual objects as above. No elaborate explanations of the theory of perspective should be entered into, but it may be found advantageous at a comparatively early stage to direct attention to the varying appearances of some simple object such as a pointer or a box, or a ring, when held in different positions and to the difference between apparent and real measurements.

II. On consideration of the various exercises commonly grouped under the head of Geometrical and Mechanical Drawing, My Lords are of opinion that they have no necessary connection with such a course of instruction in Drawing as that outlined above and that they should rather form the subject of a separate course to be taken in conjunction with either cardboard modelling or woodwork or other form of practical application of the principles involved.

Such a course would on its theoretical side embrace an explanation of the construction and use of scales, and of various measuring instruments, representation of objects in plan, elevation and section; the making of drawings in isometrical projection; and the principles of mechanical perspective.

The principles explained would be illustrated by the making of drawings to scale from actual measurement whether in plan and elevation or otherwise; by the reading of such drawings already prepared; by the use of squared paper to represent, e.g., the rise and fall of the barometer, of the thermometer, of the average attendance in School, of the gas consumption, or of anything that changes definitely as time goes on; by the making of construction drawings for use in cardboard modelling, in dress cutting, etc.; and by the use of plan and elevation and of isometrical drawings in Woodwork.

It is not necessary that each and all of these applications of practical Geometry should be included in any one course, but proposals for any such course should make provision for the practical application of the subject

matter in various directions and particularly in such forms as may be conveniently brought within the range of work in schools.

On the other hand the syllabus of a course for the instruction of teachers in cardboard modelling or woodwork should always make provision for their instruction either as a *preliminary measure or concurrently* in the principles of practical geometry and geometrical drawing.

III. The work of classes for the instruction of teachers in Nature Knowledge or Elementary Science may best be conducted along two distinct lines, each of which may be regarded as complementary to the other. Nature Knowledge (a).

(a.) The first requisite is a study of the elementary principles of physics and chemistry together with practice in the methods of accurate experimental investigation.

The programme of work suitable for such a course may best be gathered from a perusal of Circular 234*, which contains suggestions for science teaching in higher grade departments, and the syllabus of work for the first and second years given therein should be followed with such modifications as may be found necessary.

(b.) The other and complementary course should be essentially a course of out-of-door studies having for its subject matter the meteorology, physical geography, geology, plant and animal life of a given district, studied not as separate subjects but in relation to each other. It may be convenient to make some one of these subjects, *e.g.*, the plant life of the district, the main subject of investigation but its relation to the others should be kept in view and the attention of the students should be directed as opportunity offers to significant facts irrespective of the particular branch of science which they illustrate. Each outdoor excursion should have a definite purpose, should be carefully planned beforehand, and careful notes should be made as to observations of facts and objects *in situ*.† These observations will furnish material for subsequent treatment in lectures and for practical exercises of various kinds, and it may be necessary from time to time to devote special meetings of the class to the explanation of general principles of classification in botany or natural history or to other relative matters. But for this purpose the home reading of the students should be mainly relied on, and it will be an important part of the duties of the instructor both at these courses and the courses in physical science to direct the reading of the students, to examine them thereupon, and to prescribe home exercises of various kinds. It is obvious that work of the kind indicated under head (b) may be more conveniently taken in summer courses, while the exercises under head (a) may be practised in winter, but the two lines of study should be regarded as essentially complementary to each other, and need not be kept in rigid separation.

IV. My Lords are also prepared to consider proposals for courses of a more special nature, *e.g.*, for the instruction of teachers in country districts in the principles of agriculture—to be held preferably at agricultural colleges—but They are of opinion that as a rule such special courses should be preceded by instruction of a wider range such as that outlined for the two preceding courses of nature knowledge. Other Courses.

Proposals for the instruction of teachers in various branches of household economy (including cookery, laundry work, etc.), in courses of suitable physical exercises, or in military drill, or for the instruction of teachers in certain districts in navigation will also be entertained. It should be understood, however, that no proposals for the instruction of teachers in any subject of practical instruction will be considered satisfactory which do not make

* To be obtained on application to the Department.

† The interest of well-informed members of local Field Clubs and Natural History Societies should where possible be enlisted, and the formation of Field Clubs or Natural History Societies among the teachers themselves in districts where such Societies do not already exist might be expected as the natural outcome of some of these courses.

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provision either as a preliminary or concomitant for the sufficient explanation of any theoretical principles involved.

V. The length of the course which may be required in any given subject and the value to be attached to attendance at such a course are matters to be determined by experience, and it may be found necessary in certain cases to require that attendance at a given course shall be supplemented by further instruction before such attendance can be regarded as a satisfactory preparation for teaching the relative subject in schools.

On the other hand, the special object of these classes must be kept clearly in view. They are intended to enable teachers who are already certificated, and who are either untrained, or have not had the benefit of suitable training during their course at the training college to perform efficiently certain duties of instruction laid upon them by the present Code. It follows that the instruction given, though thorough within its own sphere, must be largely of an elementary nature and of a kind analogous to what will subsequently be given by the teachers in their own schools. My Lords do not wish to lay down any hard-and-fast rules as to the extent to which the instruction so given should be carried, or as to the number of courses which a teacher may attend, but as a general rule it may be said that advanced instruction in art, or the special study of some branch of science such as may be required for a University degree, is no part of the work of these classes and such instruction when desired must be obtained in classes conducted under the provisions of the Science and Art Directory or elsewhere, at the teacher's own expense.

The instruction in these classes must have constant reference to the methods of work to be adopted in the schools, and it is hoped that these references and the resulting discussion and interchange of opinion may not be without their influence both on the teaching of the subject in hand and in giving clearer views as to the object and methods of school work generally. To that end the method of study should be that of the *seminar*. That is to say, the members of the class should be regarded as a body of students pursuing some line of investigation in common under the leadership of a specially qualified person rather than as mere auditors of lectures.

Circular to Training Colleges and Local Committees for the Training of King's Students.

Circular 329.

Scotch Education Department.

30th August, 1901.

SIR,

Following the precedent set in the case of science and drawing last year, My Lords have now resolved as regards the other subjects also of examination for students in training to depart from the practice of examining the students upon a uniform prescribed syllabus, and, subject to certain general conditions, to invite the authorities charged with the training of teachers (hereinafter called Managers) to submit for approval the courses of instruction which they deemed best suited for different classes of students. To facilitate the formation of well-ordered and coherent courses of study covering the whole period of the students' training, They have resolved, as you will observe from the footnote to Article 47 I. of the Code, to discontinue the separate examination at the end of the first year of training.

I. In framing courses regard should be had to the following considerations :

(a) The students dealt with fall into two main classes, viz. (1), those who being qualified in terms of Article 95 (d), or 96, are in attendance at University classes ; and (2), those who are not. A separate course of instruction should be submitted for each of those classes of students.

(b). The subjects of instruction also fall into two main classes, viz. (1) those intended to secure a sufficiently high level of general culture on the part of the students themselves, and (2), what may be termed professional subjects.

The provision to be made under both these heads for each of the foregoing classes of students should be distinctly shown.

(c.) The work of the University students—and in a less degree the work of the non-University students—will naturally fall into two distinct periods in each year, viz., the winter session and the summer session, and a conspectus of the range of work for each session separately should be given.

II. Provision must be made for the due instruction of NON-UNIVERSITY STUDENTS in the following subjects :—

- | | | |
|--------------------------------------|---------------------------------------|---|
| A. 1. Physical Exercises and Drill | B. 1. Voice production and Phonetics. | C. 1. The principles of Education. |
| 2. English. | 2. Drawing. | 2. School methods and practice in teaching. |
| 3. History. | 3. Singing. | |
| 4. Arithmetic, Algebra and Geometry. | 4. Needlework (for women). | |
| 5. Science. | | |
| 6. Geography. | | |

(a.) The instruction in each of these subjects should follow the indications given under the several heads in the Appendix to this circular.

(b.) The subjects of Division B must be taken by all students except such as may be exempted by special permission of the Inspector of Training Colleges.

(c.) Students who on entering or during their course show special proficiency in subjects B 2, 3 and 4, may be allowed to give a reduced time to these subjects.

(d.) While the subjects of Division B., except as specified above, must form part of the regular course of instruction for all students towards obtaining a certificate, the certificate issued will not of itself confer a qualification to teach subjects B 2, 3 and 4. Such qualification will be given to those students only who have reached a certain standard of attainment in the particular subject.

(e.) The foregoing subjects, except where otherwise specified, must be taken by all non-university students, and candidates who have successfully completed the course of study in these subjects, may be recognised as "certificated teachers" in terms of Article 52 of the Code.

III. UNIVERSITY STUDENTS :—(a) The classes to be taken by students at the University should be arranged for each College in one or more groups, one or other of which shall be taken by each student in a prescribed order of classes. The classes composing each group should be determined by considerations of the value of each towards the training of a teacher, and not by the convenience of students in working towards a degree. A three years' course should be shown for each group irrespective of whether the students as a whole will proceed to a third year of study.

(b.) When the classes of English Literature or Natural Philosophy form part of any group they must not be taken earlier than the second year of study, and must be preceded by the first year's courses in English and Science respectively arranged for non-university students.

(c.) University students, in order to be recognised as "certificated teachers" must, in addition to the University classes prescribed in the scheme submitted by managers and approved by the Department, take also the subjects of II. C. They may be exempted from the subjects of II. A. (except the subjects of English and Science in which a full two years' course must be taken, of which one year may be at the University classes of English Literature or Natural Philosophy), and from such of the subjects of II. B. as the Department, on the proposal of managers, may determine. The certificate issued in such cases will not carry a qualification to teach the subjects of II. B in respect of which exemption is granted.

IV. The award of marks for the various subjects, following the practice adopted in former years in the case of University students, and extended in the past session to the subjects of science and drawing, will be made on the report of the various Professors or Lecturers, and in the case of training colleges of the Principal of the college, but subject to such investigation and further examination as the Inspector of Training Colleges shall see fit to make either personally or through any officer of the Department. The report of the various Professors and Lecturers shall take account not merely of the results of class examinations held by them, but also of the class exercises of the student, whether written or practical, and of his appearances in oral examinations of the class. The materials upon which the report is based, so far as these are available, shall be submitted for the consideration of the Chief Inspector of Training Colleges or his deputies, at such times and places as he may determine. The Department reserves to itself the right in all cases to hold such supplementary or control examinations as may be deemed necessary.

V. Recognition as a "Certificated Teacher" (Article 52 of the Code), granted upon the successful completion of courses of study as aforesaid, tested in a manner laid down in paragraph IV. shall not carry a qualification to teach a modern language, but an endorsement of such qualification may be made in respect of any language for which a student holds a Higher Grade or Honours Leaving Certificate or in which he has passed an examination accepted by the Department as equivalent, provided that he has been duly instructed in the method of teaching the subject and has satisfied such tests as to knowledge of the spoken language, as the Department may from time to time impose.

VI. Similarly, recognition as a "Certificated Teacher" shall not carry a qualification as teacher in a specially recognised Infant Department (Article 19 B 5 of the Code), but an endorsement of such qualification may be given in the case of students who successfully complete a special course of instruction in Infant School methods. Such courses must provide sufficient practice for the students in Elementary Handwork, and in the other special occupations of an Infant School.

VII. Managers may provide in their own or other institutions supplementary courses for the training of any or all of their students in:—

- (a) Household Management (including Cookery and Laundry work).
- (b) Woodwork or other manual occupations.
- (c) Agriculture or Horticulture.
- (d) Any other well-defined course of study calculated to enhance the efficiency of teachers for special classes of Elementary Schools.

The details of such courses must be submitted to the Department for approval and a corresponding endorsement will be made on the certificates of students who successfully complete an approved course.

VIII. Managers should submit in the first place, and at as early a date as possible, a general plan of study showing the distribution of the foregoing subjects over the whole period of the students' training. Except where otherwise stated, Managers are free to make their own proposals as to the relative time to be allotted to the various branches of study and the duration of each course. When this general plan has been approved time tables and syllabuses of work in conformity therewith should be submitted at the beginning of each session.

IX. My Lords will be prepared to consider, if necessary, proposals for the modification of the foregoing regulations in respect of the present second year students.

I have, etc.,

H. CRAIK.

APPENDIX.

The nature and scope of the instruction in the subjects of paragraph II. of the foregoing circular should, where specified in the following syllabus, follow the indications given under the several heads.

A.

1. Physical exercises and drill ; explanation of the *rationale* of the exercises, and a course of instruction in the laws of health.

2. English. (Instruction in this subject in one or other of its branches must extend over the whole period of training).

(a) Instruction in the principles and practice of English Composition,

(b) The study in class and in detail of the style, subject matter, and literary and historical associations of selected works of English Literature. The works selected should comprise examples both of poetry and prose, and should be typical of different periods of Literature.

(c) The homereading by the students of a wider range of selected books, with a view to obtaining an acquaintance with the subject matter, and the writing of themes or compositions thereupon. The books selected for this purpose should comprise at least one standard work on History.

(d) An elementary study of Latin with a view to the better comprehension of English. This should comprise a study of the common Latin word-forms and constructions, especially in their bearing upon the structure of English. It should be carried to such a point as to enable the students to make out the meaning of easy passages from a Latin delectus.

3. History. Examinations on the contents of the work of History read under 2 (c) ; comparison with other accounts of the same events ; a course of lectures on present day institutions of Government and their historical origins.

4. Principles of Arithmetic, Algebra and Geometry.

This should include a thorough explanation of arithmetical conceptions—in particular of the functions of vulgar and decimal fractions—and their generalisation in algebraical form.

Geometry, in the case of women students may be restricted to geometrical drawing and the theory of the geometrical constructions and conceptions, which naturally emerge in the Science course.

5. Science.

(a) A course of experimental work in Elementary Physics and Chemistry extending over the winter session of both years.

(b) A similar source of first hand investigation by the student relating to one or more branches of Natural Science to be conducted in the summer terms. (Courses of the kind conducted by several of the colleges last session will satisfy these requirements).

The primary object of the course is a disciplinary one, viz., the training of the students in the methods of scientific investigation. It should have the result of accustoming the student to represent and describe phenomena as he actually sees them, and to form his own theories and apply his own tests with such guidance and explanation as the instructor in charge of the course may find it expedient to give. The accumulation of knowledge is a matter of secondary importance.

6. Geography.

A course of lectures on the study of geography. Practical exercises in the construction and use of maps, including sketch maps from rough surveys of the physical features of neighbouring localities.

B.

1. A course of instruction in Reading and Speaking. Voice production ; the discrimination of English sounds and their representation in phonetic and common alphabets.

206)

the sub-divisions of Schedule IV. of the
as the students may be capable of.
notation.

including such preliminary study of
be necessary.
practice in teaching.
in the following subjects in different

reading, speaking, and writing of).

conducting a class in Physical Exercises and

the theory and practice of teaching the subjects
the discussion of the objects to be aimed at in the
criteria of good results, the proper gradation of
methods of correlating different subjects so
difficulties encountered by children in the study
methods of meeting them. All these points
the classes of the practising school, and practice
be combined with or follow immediately
the subject.

Circular 352.

Scotch Education Department.

8th March, 1902.

correspondence on the subject, I am now
of the procedure which Their Lordships
satisfying Themselves as to the attainments
and King's Students in the subjects of study

instruction is being given in accordance with the
already submitted and approved for the present
performance of the students in each class is being
Teacher of the class in accordance with instructions

now enclosed on which it is desired that a summary
winter session of each class, should be entered
The Forms when completed (one copy for each class)
the Department as soon as possible after the close of
copy should be filled up and retained at the Training

that the Form makes provision for entering the results
held, and also the marks awarded for class exercises
It is also proposed that a summary mark shall be given for
subject. This mark will be mainly based upon a con-

sideration of the preceding marks, but the relative importance to be attached to each factor of the award will be matter, in the first place, for the discretion of the teacher. It is further desired that the students (for each subject) shall be arranged in order of merit according to the summary mark, though it is not necessary that fine discriminations should be made, and students of approximately equal merit may be bracketed together. The careful observance of this direction is of high importance for the purpose of the investigation which Their Lordships propose to make through Their officers as to the standard of marking.

5. It will also be observed that the Forms are more especially suited for recording the attainments of students in subjects which admit of being tested largely by written examinations: for other subjects Forms devised by the teacher to bring out the various elements on which his judgment, as expressed in the summary mark, is based, may be substituted. These, however, should follow as far as possible the forms already given, and should be submitted for approval before the necessary entries are made.

6. When the same subject is continued over more than one session, whether consecutive or not, the summary mark for the preceding session will be carried over to the Form for the current session, and will be one element in determining the summary mark for that session. In the end a judgment will thus be arrived at as to the merit of the work of a student in a particular subject throughout his whole course of training, and these final marks will be those which will receive special consideration in deciding as to the award of a Teacher's Certificate in terms of the Code.

7. An investigation will be made by officers of the Department, and other persons specially nominated for the purpose, as to the scope, method, and merits of the teaching of each particular subject, and also as to the manner in which the marks entered on the Record Sheets are arrived at. These persons will act in conjunction with, or under the direction of, the Inspector of Training Colleges. While Their Lordships are alive to the importance of the work of the Training Colleges being as free as possible from interruptions, and while They will endeavour to secure that the visits of Inspectors shall not be unnecessarily frequent, and that they shall, as a rule, be intimated, They cannot give any undertaking as to Their action in these respects.

8. It will be inconvenient from several points of view that there should be an accumulation of visits of inquiry toward the end of the summer term, and on consideration, My Lords do not think that this will be necessary for the purpose of Their inquiry. The record of marks forwarded at the end of each term will be transmitted to the visiting Inspector, together with a copy of the syllabus of instruction, and he will thereupon arrange for a visit to the College in the next or a subsequent term. It will not, of course, be necessary that he should visit the college in each term, provided that he has opportunity of inquiring, if necessary, into the whole record of a student, up to the time of his visit. His investigations at his visit will be directed to ascertaining the mode in which the award of marks for preceding terms has been arrived at, whether the tests applied are adequate, and whether they are sufficiently representative of the scope of instruction outlined in the approved syllabus. For this purpose it will be necessary that he should have free access to the mark book of the Lecturer or Teacher, the examination papers of the students, and also their exercise books, and should be afforded such explanations as to these that he may deem necessary. He may also require any papers to be sent to his address for more leisurely investigation. As the same Inspector will, as a rule, visit all the Training Colleges, an opinion as to the relative standard of marking will be arrived at, and, if necessary, an adjustment of marks made accordingly; but as an absolutely uniform standard is not essential to Their Lordships' plan, this procedure will be called for only in cases of marked divergency.

9. The inquiry of the visiting Inspector will have reference to the work of first as well as of second (or third) year students, but will, as a rule, be restricted to work done in the term preceding his visit. It may, however, be repeated in succeeding terms as often as may be necessary. It will not be necessary that he should test the award of marks in the case of each student, but only of a sufficiently representative proportion taken from different parts of the list. He will, however, in all cases make special inquiry as to the attainments of those students who have been awarded a low mark in the subject which he is investigating, and will report to Their Lordships whether or not the work of these students, or of any of them, may be accepted as satisfactory. Where the work of a student in any important subject is reported to be unsatisfactory, he will be specially warned, and inquiry will be made as to his further progress in succeeding terms, with a view to determining whether he should be suspended from recognition as a King's Scholar or Student.

10. The authorities of the Training College or Committee will be expected to report to Their Lordships at the end of any term, and particularly at the end of any year of study, any student whose conduct is unsatisfactory, or who has failed to show due diligence in his studies, and My Lords will thereupon direct a special investigation to be made into his case, and take such further action as may be called for.

11. A review of the final marks in all subjects awarded to outgoing students in each year will be made under the direction of the Inspector of Training Colleges, and the award of Certificates made in accordance therewith. For the purpose of this review the Inspector of Training Colleges may make such further investigation as to the attainments of a student in any particular subject, and may apply such tests as he may deem necessary.

12. The award of Certificates (subject to the prescribed period of probation) to the outgoing students of the present year will be made on the basis of the marks given for the work of the present year, though their position in the class list for the previous year may also, to some extent, be taken into consideration.

13. In addition to inquiring into and reporting as to the award of marks, it will also be the duty of the visiting Inspector for each subject to inform himself at his visits to the College as to the whole scope of the instruction in that subject, both for first and second year students, and to make a report to Their Lordships accordingly at the end of the session. He will have regard both to the syllabus of instruction, and to the particular methods adopted in carrying it out, and his observations on these points will be considered by Their Lordships in dealing with the syllabus proposed for next session. It should be understood that Their Lordships' approval of the syllabuses already submitted is provisional only, and They have to request that fresh proposals for the ensuing session be submitted *before the end of the summer term of the present year*. The syllabuses for each subject should be carefully drawn out in considerable detail, and should embody the result of the experience gained during the present year. They will be carefully considered in the light of the reports which Their Lordships have received from the visiting Inspectors, and it is hoped that in this way an adjustment may be arrived at which will form a fairly permanent basis of work for succeeding years.

14. The authorities of the various Colleges may, no doubt, find it useful to confer as to the general lines of work to be undertaken, but My Lords think it essential that the syllabus of work for any particular subject in a particular College should be drawn up in the first place by the person who is to be entrusted with the teaching of that subject in that College. It is not Their intention that the syllabus hitherto prescribed for all the colleges in common should be replaced by an equally general one imposed by a joint Committee of the Training Colleges, though They will be glad to receive and consider suggestions by the Committees of the Training Colleges, and the King's Students' Committee, of particular syllabuses transmitted by them.

15. It will be evident that the arrangements described above place a very grave responsibility upon the teaching staff of the Colleges, and upon the Committees, as regards the selection of that staff, and They think it necessary to require that in future all prospective appointments shall be intimated to Them beforehand, so that they may have an opportunity of satisfying Themselves as to the qualifications of the persons to be appointed.

16. It should be further understood that under the arrangements outlined a special responsibility will attach to the Principals of Training Colleges for the adequate discharge by the subordinate members of their staffs of the duties entrusted to them, and in particular for the careful and painstaking assessment by them of the relative merits of the work of the students in their classes. It will be necessary also that in the arrangements for the training of King's Students, as distinct from King's Scholars, some one shall be appointed who, whether under that designation or not, shall discharge the duties of Principal, and be responsible for the general conduct of the students, for the proper balance of their work, and for the care with which the work of the students is appraised by the various teachers.

17. The foregoing procedure for the award of marks applies only to non-University classes, whether attended by University or non-University students. The award of marks for work done in University classes will for the present be made in the same manner as heretofore.

I have, etc.,

H. CRAIK.

SCOTCH EDUCATION DEPARTMENT.

TRAINING OF TEACHERS.

EXAMINATION OF CANDIDATES FOR RECOGNITION AS QUALIFIED TEACHERS OF MODERN LANGUAGES.

Memorandum.

1. The Department is prepared to consider applications for the recognition as qualified teachers of Modern Languages of (1) Students in Training Colleges and King's Students, and (2) Certificated Teachers and Assistant Teachers (Article 79) who fulfil the following conditions :—

2. Candidates for recognition must have attended an approved course of instruction in the language professed, either at Training College or University Classes under the conditions laid down in the Department's Circular Letter No. 329, or at courses conducted under Article 91 (d) of the Code (or Classes recognised as equivalent thereto) extending to not less than 60 hours. A record of their work at such courses must also have been duly furnished to the Department in the prescribed form.

3. The examination consists of two parts—the Written Examination and the Oral Examination. All candidates for recognition must pass both the written and the oral tests.

4. Application for the examination of candidates should be made by the authorities of the Training College or Local Committee, or the Managers of the Course under Article 91 (d) attended by the candidates, and must reach the Department *before the 25th March*.

5. Candidates may be presented for examination in either French or German.

6. For the *Written Examination* the papers set will be in the main the same as for the Higher Grade Examination for Leaving Certificates, but the standard required for a pass will be considerably higher and it must be understood that

Although for convenience the same papers may be used, the Examination does not in any way form part of that for Leaving Certificates.

7. The *Oral Examination* will be conducted, during the course of the Summer Session, at the various Training Colleges and Centres for King's Students, and such other suitable centres as may be found necessary, by Examiners appointed by the Department.

A high standard will be exacted as regards accuracy of pronunciation and fluency of utterance, as well as capability of understanding ordinary conversational sentences or simple narrative.

The general character of the oral test may be indicated as follows :—

1. The candidate will be required to read aloud one or more passages of prose or verse to test (a) correct vowel enunciation, (b) accentuation, (c) fluency, and (d) grouping of words in the natural manner of the language so as to bring out the sense.
2. The Examiner will read passages of prose or verse, at varying rates of utterance up to but not exceeding moderate natural fluency in order to test how far the Candidate apprehends the gist of what has been read.
3. The Examiner will test the Candidate by conversation on some simple topic.
4. An exercise in dictation may be set.

Each candidate will be required to present a choice of pieces of prose and verse, the pronunciation of which he has carefully studied, and which he will be expected to recite fluently and accurately, and in such a way as to make the meaning clear, a thorough understanding of the meaning of each piece and its construction being, of course, expected.

8. The result of both the oral and the written examination, will be taken into consideration in determining whether or not recognition as a qualified teacher can be granted, but deficiency in either may to some extent be compensated for by conspicuous merit in the other. The mark assigned to candidates for their class-work at the approved course of instruction will also be considered.

9. Candidates who pass the written examination but fail in the oral test will not be required to take the written examination again, and *vice versa*.

Note.—Looking to the prime importance of an accurate knowledge of the spoken language on the part of a teacher of a Modern Language, the Department feels that it may ere long be possible, as it certainly would be desirable, to require the oral test to be passed before the written examination. As a step towards this change, the rule excluding first year Students from the Oral Examination, and that requiring the written paper to be taken before or concurrently with the Oral Examination, will no longer be enforced in the case of King's Scholars and King's Students.

8th February, 1904.

APPENDIX.

The following extracts relate to the method of instruction to be followed in the case of those students who enter a Training College with little or no previous knowledge of the language to be studied, and they are re-printed here because they may be found to be largely applicable to the case of teachers who are commencing the study of a modern language in classes conducted under Article 91 (d) of the Code.

Extracts from the Department's Circular Letter No. 371.

"My Lords think it highly desirable that those students also who enter upon their course of training with, it may be, little preliminary knowledge of a modern language, and who may not hope to obtain the special qualification

referred to, should nevertheless be afforded an opportunity, as part of the regular curriculum of study, of acquiring under the best tuition such a knowledge of the elements of that language as will be likely to make subsequent private study profitable. Much that is implied in the knowledge of a language, gradually increasing command of vocabulary, knowledge of sentence construction, appreciation of the masterpieces of literature, may result from the unaided efforts of the capable student. Even skill in composition may be acquired, to some extent, in circumstances which do not admit of direct personal tuition. But to many of those who will subsequently become teachers in various parts of the country, the Training College affords the one and only opportunity of accustoming the ear to the sounds of a foreign tongue and of acquiring the power of reproducing them with facility and approximate correctness. It is therefore clear what line the course of study during the period of training should take. What the student can do for himself should be done in his time for private study, with, of course, the necessary guidance and direction. The precious hours of classwork must be utilised, as far as possible, for the exercise of ear and tongue.

"In teaching pronunciation full use should be made of the knowledge acquired in the general course of phonetics at the College, and the students should be required to commit to memory pieces of prose and verse, the pronunciation of which has been studied in detail and thoroughly mastered. Alongside of these practical exercises, systematic study of the grammar of the language should be undertaken, but this study of the grammar should be illustrated, not by random examples, but by constant reference to the pieces which the student has already mastered. Thus, for example, the broad rules for the classification of substantives according to gender having been learned, the student should be exercised in referring each individual substantive in the pieces he has already learned to its proper heading in the grammar. Similarly, at a more advanced stage, the rules for the construction of the subjunctive mood having been studied in outline, all the instances of the subjunctive mood in the pieces with which the student is familiar should be carefully examined with reference to those rules. It is only by some such process that one can hope to avoid a defect of which examiners constantly complain, viz., that candidates who apparently know a grammar rule correctly are unable to apply it in practice.

"The number of pieces thus studied should be gradually and continuously added to, and these pieces should be ultimately known in their minutest detail of construction. Thus treated they will form a permanent body of reference for the guidance of the student in his further, and it may be, unaided studies. They will also provide abundant material for practice in composition, both oral and written.

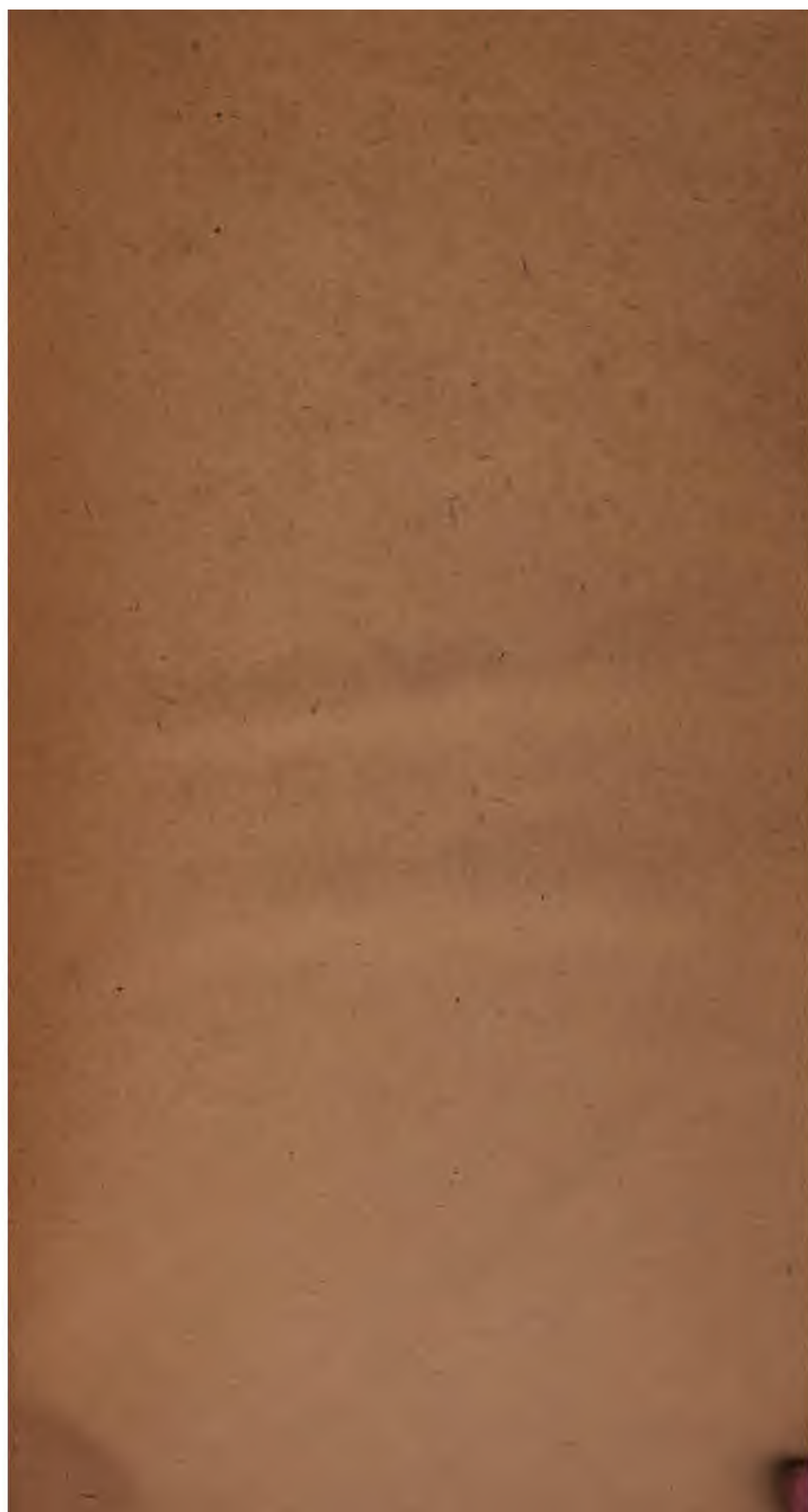
"For the purpose of placing the Training College student in a position in which he may pursue profitably the study of the language for himself without extraneous aids, no other form of study than that already indicated is really essential. A comparatively few selected pieces must be thoroughly studied from the point of view of pronunciation and construction, committed to memory, and made the basis for abundant exercises in the manipulation of words and constructions with which the student is already thoroughly familiar. The knowledge acquired, if limited in scope, will be not only thorough but readily available in practice, and will form a sound basis for further study. But nothing less than complete mastery of what is learned, involving perfect recollection and instinctive correctness of phrase within the limits of the constructions known, will suffice.

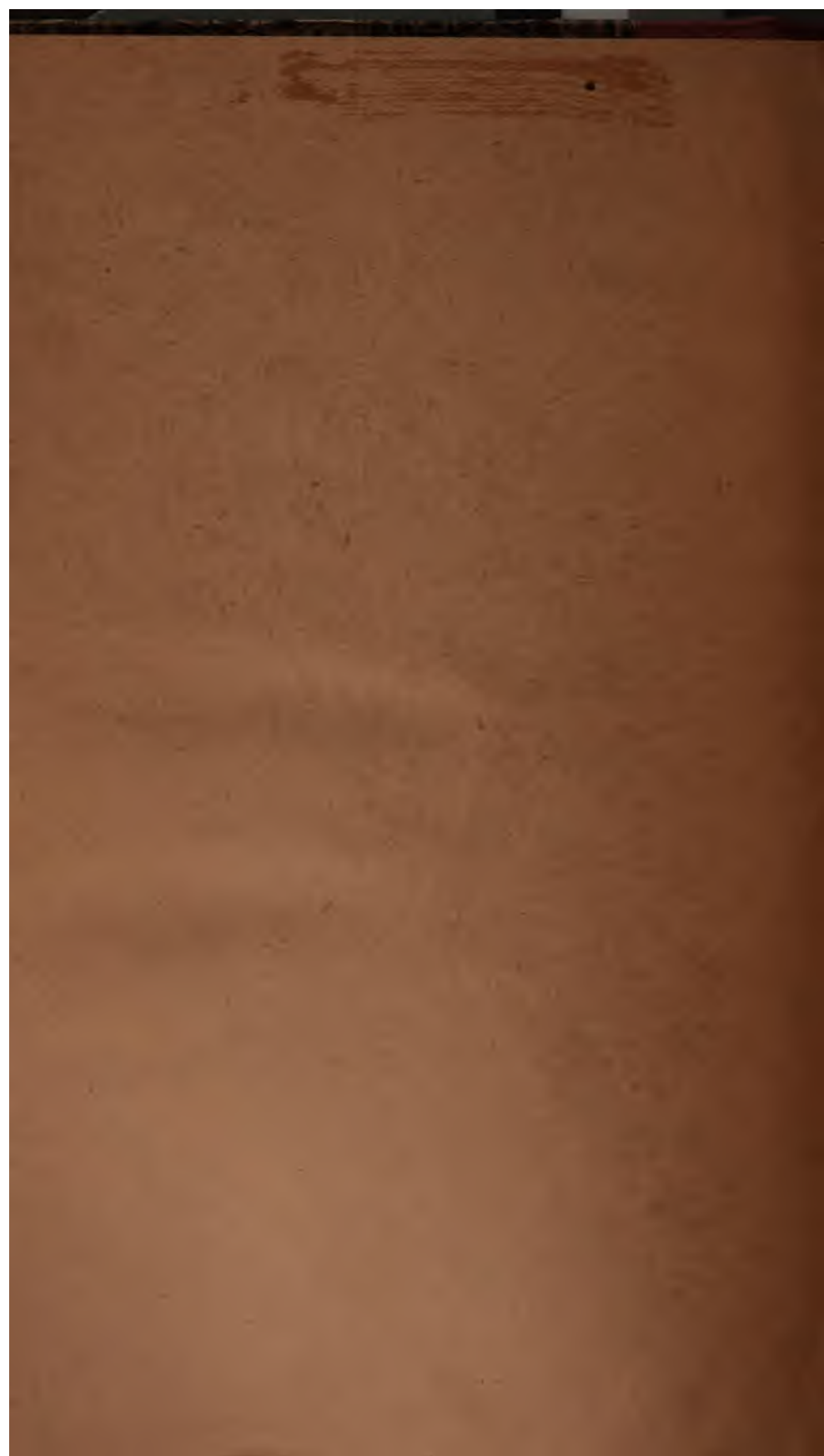
"If time permits and greater variety of work is desired, two additional forms of exercise may be practised, both of which may be largely matter for private study. The one is the acquisition of a vocabulary descriptive of common things and common actions, combined with the study of a well-selected book of dialogues. The other is the free reading of attractive subject

matter without further reference to the dictionary and grammar than is necessary to make out the sense. Models of good translation into English should be given from time to time and discussed in class, and occasional exercises of this kind should be given out for home work, but as little as possible of the class time should be devoted to routine construing. For more advanced students—with whom, nevertheless, oral work should not be neglected—there is the systematic study of some work of literature and the practice of composition in its various forms.

* * * * *

“ In the choice of a language to be studied, in those cases where a choice is possible, My Lords hope that every consideration will be given to the claims of German. At present it is found that the overwhelming majority of candidates take French, but it may be suspected that in many cases the choice is due rather to unreflecting custom than to any deliberate weighing of the respective advantages of the two languages.”





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